



Product catalog

Technical data are available at ;
<http://www.optex-fa.com>



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OPTEX FA CO., LTD.



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BIF-WN	Trimmer type, cable, NPN	
BIF-WP	Trimmer type, cable, PNP	

BRF series Fiber sensor pot. type		125 page
BGF-CN	Mark Sensor type, M8 connector, NPN	
BGF-CP	Mark Sensor type, M8 connector, PNP	
BGF-N	Mark Sensor type, cable, NPN	
BGF-P	Mark Sensor type, cable, PNP	
BRF-CN	Regular type, M8 connector, NPN	
BRF-CP	Regular type, M8 connector, PNP	
BRF-N	Regular type, cable, NPN	
BRF-P	Regular type, cable, PNP	
BRF-CHN	50μs, M8 connector, NPN	
BRF-CHP	50μs, M8 connector, PNP	
BRF-HN	50μs, cable, NPN	
BRF-HP	50μs, cable, PNP	

C series Cylindrical type		15 page
CDD-11CN	Diffuse, 11cm, NPN, M8 connector	
CDD-11CP	Diffuse, 11cm, PNP, M8 connector	
CDD-11N	Diffuse, 11cm, NPN, cable	
CDD-11P	Diffuse, 11cm, PNP, cable	
CDD-40CN	Diffuse, 40cm, NPN, M8 connector	
CDD-40CP	Diffuse, 40cm, PNP, M8 connector	
CDD-40N	Diffuse, 40cm, NPN, cable	
CDD-40P	Diffuse, 40cm, PNP, cable	
CRD-300CN	Retro, 3 meter, NPN, M8 connector	
CRD-300CP	Retro, 3 meter, PNP, M8 connector	
CRD-300N	Retro, 3 meter, NPN, cable	
CRD-300P	Retro, 3 meter, PNP, cable	
CRDF-100CN	Retro with Polarized Filter, NPN, M8 connector	
CRDF-100CP	Retro with Polarized Filter, PNP, M8 connector	
CRDF-100N	Retro with Polarized Filter, 1 meter, NPN, cable	
CRDF-100P	Retro with Polarized Filter, 1 meter, PNP, cable	
CTD-1500CN	T/B 15 meter, NPN, M8 connector	
CTD-1500CP	T/B 15 meter, PNP, M8 connector	
CTD-1500N	T/B 15 meter, NPN, cable	
CTD-1500P	T/B 15 meter, PNP, cable	

CD1 series Displacement sensor		165 page
CD1-100CN	Laser, 100+/-35mm, connector, NPN	
CD1-100CP	Laser, 100+/-35mm, connector, PNP	
CD1-100N	Laser, 100+/-35mm, cable, NPN	
CD1-100P	Laser, 100+/-35mm, cable, PNP	
CD1-130CN	Laser, 130+/-50mm, connector, NPN	
CD1-130CP	Laser, 130+/-50mm, connector, PNP	
CD1-130N	Laser, 130+/-50mm, cable, NPN	
CD1-130P	Laser, 130+/-50mm, cable, PNP	
CD1-250CN	Laser, 250+/-150mm, connector, NPN	
CD1-250CP	Laser, 250+/-150mm, connector, PNP	
CD1-250N	Laser, 250+/-150mm, cable, NPN	
CD1-250P	Laser, 250+/-150mm, cable, PNP	
CD1-30CN	Laser, 30+/-4mm, connector, NPN	
CD1-30CP	Laser, 30+/-4mm, connector, PNP	
CD1-30N	Laser, 30+/-4mm, cable, NPN	
CD1-30P	Laser, 30+/-4mm, cable, PNP	
CD1-50CN	Laser, 50+/-10mm, connector, NPN	
CD1-50CP	Laser, 50+/-10mm, connector, PNP	
CD1-50N	Laser, 50+/-10mm, cable, NPN	
CD1-50P	Laser, 50+/-10mm, cable, PNP	

CD3 series Displacement sensor		171 page
CD3-100CN	CCD, 100+/-40mm, connector, NPN	
CD3-100CP	CCD, 100+/-40mm, connector, PNP	
CD3-100N	CCD, 100+/-40mm, cable, NPN	
CD3-100P	CCD, 100+/-40mm, cable, PNP	
CD3-250CN	CCD, 250+/-150mm, connector, NPN	
CD3-250CP	CCD, 250+/-150mm, connector, PNP	
CD3-250N	CCD, 250+/-150mm, cable, NPN	
CD3-250P	CCD, 250+/-150mm, cable, PNP	
CD3-30CN	CCD, 30+/-4mm, connector, NPN	
CD3-30CP	CCD, 30+/-4mm, connector, PNP	
CD3-30N	CCD, 30+/-4mm, cable, NPN	
CD3-30P	CCD, 30+/-4mm, cable, PNP	
CD3-50CN	CCD, 50+/-10mm, connector, NPN	
CD3-50CP	CCD, 50+/-10mm, connector, PNP	
CD3-50N	CCD, 50+/-10mm, cable, NPN	
CD3-50P	CCD, 50+/-10mm, cable, PNP	
CD3-80CN	CCD, 80+/-15mm, connector, NPN	
CD3-80CP	CCD, 80+/-15mm, connector, PNP	
CD3-80N	CCD, 80+/-15mm, cable, NPN	
CD3-80P	CCD, 80+/-15mm, cable, PNP	

CD4 series Displacement sensor		177 page
CD4-30	CMOS laser head, 30+/-5mm	
CD4-30-3R	Class III type of CD4-30	
CD4-85	CMOS laser head, 85+/-20mm	
CD4-85-3R	Class III type of CD4-85	
CD4-350	CMOS laser head, 350+/-100mm	
CD4-350-3R	Class III type of CD4-350	
CD4A-N	Amplifier, NPN	
CD4A-P	Amplifier, PNP	

CD4L-25 series Displacement sensor		185 page
CD4-L25	Specular type laser head	
CD4A-LN	Amplifier for CD4-L25, NPN	
CD4A-LP	Amplifier for CD4-L25, PNP	

D series Stand-alone laser sensor		89 page
(Potentiometer type)		
DR-500CN	LASER Retro Reflective, 5m, NPN, M8 connector	
DR-500CP	LASER Retro Reflective, 5m, PNP, M8 connector	
DR-500N	LASER Retro Reflective, 5m, NPN, cable	
DR-500P	LASER Retro Reflective, 5m, PNP, cable	
DT-4000CN	LASER Thru-beam, 40m, NPN, M8 connector	
DT-4000CP	LASER Thru-beam, 40m, PNP, M8 connector	
DT-4000N	LASER Thru-beam, 40m, NPN, cable	
DT-4000P	LASER Thru-beam, 40m, PNP, cable	
BGS-DL10CN	LASER BGS, 10cm, NPN, M8 connector	
BGS-DL10CP	LASER BGS, 10cm, PNP, M8 connector	
BGS-DL10N	LASER BGS, 10cm, NPN, cable	
BGS-DL10P	LASER BGS, 10cm, PNP, cable	
BGS-DL30CN	LASER BGS, 30cm, NPN, M8 connector	
BGS-DL30CP	LASER BGS, 30cm, PNP, M8 connector	
BGS-DL30N	LASER BGS, 30cm, NPN, cable	
BGS-DL30P	LASER BGS, 30cm, PNP, cable	
BGS-DL70CN	LASER BGS, 70cm, NPN, M8 connector	
BGS-DL70CP	LASER BGS, 70cm, PNP, M8 connector	
BGS-DL70N	LASER BGS, 70cm, NPN, cable	
BGS-DL70P	LASER BGS, 70cm, PNP, cable	
(Teach-in type)		
BGS-DL10TCN	Teach-in, LASER BGS, 10cm, NPN, M8 connector	
BGS-DL10TCP	Teach-in, LASER BGS, 10cm, PNP, M8 connector	
BGS-DL10TN	Teach-in, LASER BGS, 10cm, NPN, cable	
BGS-DL10TP	Teach-in, LASER BGS, 10cm, PNP, cable	
BGS-DL25TCN	Teach-in, LASER BGS, 25cm, NPN, M8 connector	
BGS-DL25TCP	Teach-in, LASER BGS, 25cm, PNP, M8 connector	
BGS-DL25TN	Teach-in, LASER BGS, 25cm, NPN, cable	
BGS-DL25TP	Teach-in, LASER BGS, 25cm, PNP, cable	
(Transparent type)		
DR-Q150TCN	Glass detection, LASER Retro Reflective, 1.5 m, NPN, M8 cn.	
DR-Q150TCP	Glass detection, LASER Retro Reflective, 1.5 m, PNP, M8 cn.	
DR-Q150TN	Glass detection, LASER Retro Reflective, 1.5 m, NPN, cable	
DR-Q150TP	Glass detection, LASER Retro Reflective, 1.5 m, PNP, cable	
DR-Q400TCN	Glass detection, LASER Retro Reflective, 4 m, NPN, M8 cn.	
DR-Q400TCP	Glass detection, LASER Retro Reflective, 4 m, PNP, M8 cn.	
DR-Q400TN	Glass detection, LASER Retro Reflective, 4 m, NPN, cable	
DR-Q400TP	Glass detection, LASER Retro Reflective, 4 m, PNP, cable	

D2RF series Digital fiber amplifier, teach-in type		117 page
D2GF-2TCN3	Green LED, M8DQ - 3pin, NPN	
D2GF-2TCN4	Green LED, M8DQ - 4pin, NPN	
D2GF-2TCP3	Green LED, M8DQ - 3pin, PNP	
D2GF-2TCP4	Green LED, M8DQ - 4pin, PNP	
D2GF-2TN	Green LED, cable, NPN	
D2GF-2TP	Green LED, cable, PNP	
D2GF-TCN4	Green LED, M8DQ - 4pin, NPN	
D2GF-TCP4	Green LED, M8DQ - 4pin, PNP	
D2GF-TMCN4	Master Unit, Red LED, M8QD - 4pin, NPN	
D2GF-TMCP4	Master Unit, Red LED, M8QD - 4pin, PNP	
D2GF-TMN	Master Unit, Red LED, cable, NPN	
D2GF-TMP	Master Unit, Red LED, cable, PNP	
D2GF-TN	Green LED, cable, NPN	
D2GF-TP	Green LED, cable, PNP	
D2GF-TSCN4	Slave Unit, Red LED, M8QD - 4pin, NPN	
D2GF-TSCP4	Slave Unit, Red LED, M8QD - 4pin, PNP	
D2GF-TSN	Slave Unit, Red LED, cable, NPN	
D2GF-TSP	Slave Unit, Red LED, cable, PNP	
D2RF-2TAN	Analogue output, Red LED, cable, NPN	
D2RF-2TAP	Analogue output, Red LED, cable, PNP	
D2RF-2TCN3	Red LED, M8DQ - 3pin, NPN	
D2RF-2TCN4	Red LED, M8DQ - 4pin, NPN	

D2RF-2TCP3	Red LED, M8DQ - 3pin, PNP
D2RF-2TCP4	Red LED, M8DQ - 4pin, PNP
D2RF-2TN	Red LED, cable, NPN
D2RF-2TP	Red LED, cable, PNP
D2RF-TAN	Analogue output, Red LED, cable, NPN
D2RF-TAP	Analogue output, Red LED, cable, PNP
D2RF-TCN4	Red LED, M8DQ - 4pin, NPN
D2RF-TCP4	Red LED, M8DQ - 4pin, PNP
D2RF-TMCN4	Master Unit, Red LED, M8QD - 4pin, NPN
D2RF-TMCP4	Master Unit, Red LED, M8QD - 4pin, PNP
D2RF-TMN	Master Unit, Red LED, cable, NPN
D2RF-TMP	Master Unit, Red LED, cable, PNP
D2RF-TN	Red LED, cable, NPN
D2RF-TP	Red LED, cable, PNP
D2RF-TSCN4	Slave Unit, Red LED, M8DQ - 4pin, NPN
D2RF-TSCP4	Slave Unit, Red LED, M8DQ - 4pin, PNP
D2RF-TSN	Slave Unit, Red LED, cable, NPN
D2RF-TSP	Slave Unit, Red LED, cable, PNP

D2SA series Separate head type laser sensor		100 page
D2SA-MN	Full Function Type, NPN, cable 6 cores	
D2SA-MN3	Economical Type, NPN, cable 6 cores	
D2SA-MN3S	Economical Type, NPN, cable 6 cores	
D2SA-MN-M8	Economical Type, NPN, M8 QD	
D2SA-MNS	Full Function Type, NPN, cable 6 cores	
D2SA-MNS-M8	Economical Type, NPN, M8 QD	
D2SA-MP	Full Function Type, PNP, cable 6 cores	
D2SA-MP3	Economical Type, PNP, cable 6 cores	
D2SA-MP3S	Economical Type, PNP, cable 6 cores	
D2SA-MP-M8	Economical Type, PNP, M8 QD	
D2SA-MPS	Full Function Type, PNP, cable 6 cores	
D2SA-MPS-M8	Economical Type, PNP, M8 QD	
D2SA-SN	Full Function Type, NPN, cable 4 cores	
D2SA-SN1	Economical Type, NPN, cable 1 core	
D2SA-SN-M8	Economical Type, NPN, M8 QD	
D2SA-SP	Full Function Type, PNP, cable 4 cores	
D2SA-SP1	Economical Type, PNP, cable 1 core	
D2SA-SP-M8	Economical Type, PNP, M8 QD	
DSD-100	Diffuse Reflective Head	
DSR-5000	Retro Head 50 meter	
DSR-800	Retro Reflective Head	
DSTA-200	Thru-Beam Head, Line Beam	
DSTA-200-M8	Thru-Beam Head, Line Beam, M8 QD	
DSTC-200	Thru-Beam Head, round spot	
DSTC-200-M8	Thru-Beam Head, round spot, M8 QD	

DM-18T series RGB Mark sensor		79 page
DM-18TCN	Color Mark, 18mm, NPN, M8 connector	
DM-18TCP	Color Mark, 18mm, PNP, M8 connector	
DM-18TN	Color Mark, 18mm, NPN, cable	
DM-18TP	Color Mark, 18mm, PNP, cable	

E series Miniature flat sensor		18 page
(Convergent type) (8mm sensing distance)		
EL-08ND	NPN, 2m cable, Dark-ON	
EL-08ND3	NPN, M8 Pig tail, 3-pins, Dark-ON	
EL-08ND4	NPN, M8 Pig tail, 4-pins, Dark-ON	
EL-08NL	NPN, 2m cable, Light-ON	
EL-08NL3	NPN, M8 Pig tail, 3-pins, Light-ON	
EL-08NL4	NPN, M8 Pig tail, 4-pins, Light-ON	
EL-08PD	PNP, 2m cable, Dark-ON	
EL-08PD3	PNP, M8 Pig tail, 3-pins, Dark-ON	
EL-08PD4	PNP, M8 Pig tail, 4-pins, Dark-ON	

EL-08PL	PNP, 2m cable, Light-ON
EL-08PL3	PNP, M8 Pig tail, 3-pins, Light-ON
EL-08PL4	PNP, M8 Pig tail, 4-pins, Light-ON
(Convergent type) (15mm sensing distance)	
EL-15ND	NPN, 2m cable, Dark-ON
EL-15ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
EL-15ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
EL-15NL	NPN, 2m cable, Light-ON
EL-15NL3	NPN, M8 Pig tail, 3-pins, Light-ON
EL-15NL4	NPN, M8 Pig tail, 4-pins, Light-ON
EL-15PD	PNP, 2m cable, Dark-ON
EL-15PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
EL-15PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
EL-15PL	PNP, 2m cable, Light-ON
EL-15PL3	PNP, M8 Pig tail, 3-pins, Light-ON
EL-15PL4	PNP, M8 Pig tail, 4-pins, Light-ON
(Convergent type) (30mm sensing distance)	
EL-30ND	NPN, 2m cable, Dark-ON
EL-30ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
EL-30ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
EL-30NL	NPN, 2m cable, Light-ON
EL-30NL3	NPN, M8 Pig tail, 3-pins, Light-ON
EL-30NL4	NPN, M8 Pig tail, 4-pins, Light-ON
EL-30PD	PNP, 2m cable, Dark-ON
EL-30PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
EL-30PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
EL-30PL	PNP, 2m cable, Light-ON
EL-30PL3	PNP, M8 Pig tail, 3-pins, Light-ON
EL-30PL4	PNP, M8 Pig tail, 4-pins, Light-ON

(Diffuse reflective type) (100mm sensing distance)	
ED-100ND	NPN, 2m cable, Dark-ON
ED-100ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
ED-100ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
ED-100NL	NPN, 2m cable, Light-ON
ED-100NL3	NPN, M8 Pig tail, 3-pins, Light-ON
ED-100NL4	NPN, M8 Pig tail, 4-pins, Light-ON
ED-100PD	PNP, 2m cable, Dark-ON
ED-100PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
ED-100PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
ED-100PL	PNP, 2m cable, Light-ON
ED-100PL3	PNP, M8 Pig tail, 3-pins, Light-ON
ED-100PL4	PNP, M8 Pig tail, 4-pins, Light-ON
(Thru-beam type) (500mm sensing distance)	
ET-500ND	NPN, 2m cable, Dark-ON
ET-500ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
ET-500ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
ET-500NL	NPN, 2m cable, Light-ON
ET-500NL3	NPN, M8 Pig tail, 3-pins, Light-ON
ET-500NL4	NPN, M8 Pig tail, 4-pins, Light-ON
ET-500PD	PNP, 2m cable, Dark-ON
ET-500PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
ET-500PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
ET-500PL	PNP, 2m cable, Light-ON
ET-500PL3	PNP, M8 Pig tail, 3-pins, Light-ON
ET-500PL4	PNP, M8 Pig tail, 4-pins, Light-ON
(Convergent type) (15mm sensing distance)	
EL-S15ND	NPN, 2m cable, Dark-ON
EL-S15ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
EL-S15ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
EL-S15NL	NPN, 2m cable, Light-ON
EL-S15NL3	NPN, M8 Pig tail, 3-pins, Light-ON
EL-S15NL4	NPN, M8 Pig tail, 4-pins, Light-ON
EL-S15PD	PNP, 2m cable, Dark-ON
EL-S15PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
EL-S15PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
EL-S15PL	PNP, 2m cable, Light-ON

EL-S15PL3	PNP, M8 Pig tail, 3-pins, Light-ON
EL-S15PL4	PNP, M8 Pig tail, 4-pins, Light-ON
(Diffuse reflective type) (30mm sensing distance)	
ED-S30ND	NPN, 2m cable, Dark-ON
ED-S30ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
ED-S30ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
ED-S30NL	NPN, 2m cable, Light-ON
ED-S30NL3	NPN, M8 Pig tail, 3-pins, Light-ON
ED-S30NL4	NPN, M8 Pig tail, 4-pins, Light-ON
ED-S30PD	PNP, 2m cable, Dark-ON
ED-S30PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
ED-S30PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
ED-S30PL	PNP, 2m cable, Light-ON
ED-S30PL3	PNP, M8 Pig tail, 3-pins, Light-ON
ED-S30PL4	PNP, M8 Pig tail, 4-pins, Light-ON
(Thru-beam type) (500mm sensing distance)	
ET-S500ND	NPN, 2m cable, Dark-ON
ET-S500ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
ET-S500ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
ET-S500NL	NPN, 2m cable, Light-ON
ET-S500NL3	NPN, M8 Pig tail, 3-pins, Light-ON
ET-S500NL4	NPN, M8 Pig tail, 4-pins, Light-ON
ET-S500PD	PNP, 2m cable, Dark-ON
ET-S500PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
ET-S500PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
ET-S500PL	PNP, 2m cable, Light-ON
ET-S500PL3	PNP, M8 Pig tail, 3-pins, Light-ON
ET-S500PL4	PNP, M8 Pig tail, 4-pins, Light-ON

FGS-D series Forth ground suppression sensor		68 page
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JT-H(S)1000CNR	Thru-beam, 10 meter, connector, NPN
JT-H(S)1000CPR	Thru-beam, 10 meter, connector, PNP
JT-H(S)1000NR	Thru-beam, 10 meter, cable, NPN
JT-H(S)1000PR	Thru-beam, 10 meter, cable, PNP

J2 series Epoxy injected, IP67g sensor 29 page	
J2D-H(S)100CN	TEACH-IN Diffuse, IR LED, 100cm, connector, NPN
J2D-H(S)100CP	TEACH-IN Diffuse, IR LED, 100cm, connector, PNP
J2D-H(S)100N	TEACH-IN Diffuse, IR LED, 100cm, cable, NPN
J2D-H(S)100P	TEACH-IN Diffuse, IR LED, 100cm, cable, PNP
J2D-H(S)10CN	TEACH-IN Narrow view, Diffuse, 10cm, connector, NPN
J2D-H(S)10CP	TEACH-IN Narrow view, Diffuse, 10cm, connector, PNP
J2D-H(S)10N	TEACH-IN, Narrow view, Diffuse, 10cm, cable, NPN
J2D-H(S)10P	TEACH-IN, Narrow view, Diffuse, 10cm, cable, PNP
J2D-H(S)70CN	TEACH-IN Diffuse, Red LED, 70cm, connector, NPN
J2D-H(S)70CP	TEACH-IN, Diffuse, Red LED, 70cm, connector, PNP
J2D-H(S)70N	TEACH-IN Diffuse, Red LED, 70cm, cable, NPN
J2D-H(S)70P	TEACH-IN Diffuse, Red LED, 70cm, cable, PNP
BGS-H(S)15CN	TEACH-IN BGS, 15cm, connector, NPN
BGS-H(S)15CP	TEACH-IN BGS, 15cm, connector, PNP
BGS-H(S)15N	TEACH-IN BGS, 15cm, cable, NPN
BGS-H(S)15P	TEACH-IN BGS, 15cm, cable, PNP

J3 series Narrow view optics type 32 page	
J3M-GH(S)01CN	TEACH-IN Mark Sensor, 10mm, connector, NPN
J3M-GH(S)01CP	TEACH-IN Mark Sensor, 10mm, connector, PNP
J3M-GH(S)01N	TEACH-IN Mark Sensor, 10mm, cable, NPN
J3M-GH(S)01P	TEACH-IN Mark Sensor, 10mm, cable, PNP
J3R-GH(S)100CN	Retro Reflector type, 1m, M8 connector, NPN
J3R-GH(S)100CP	Retro Reflector type, 1m, M8 connector, PNP
J3R-GH(S)100N	Retro Reflector type, 1m, cable, NPN
J3R-GH(S)100P	Retro Reflector type, 1m, cable, PNP
BGS-3JH(S)05CN	TEACH-IN, Narrow view BGS, 5cm, connector, NPN
BGS-3JH(S)05CP	TEACH-IN, Narrow view BGS, 5cm, connector, PNP
BGS-3JH(S)05N	TEACH-IN, Narrow view BGS, 5cm, cable, NPN
BGS-3JH(S)05P	TEACH-IN, Narrow view BGS, 5cm, cable, PNP

K series Glass / transparent object sensor 63 page	
KD-40CN	Diffuse, 40cm, NPN, connector
KD-40CP	Diffuse, 40cm, PNP, connector
KD-40N	Diffuse, 40cm, NPN, cable
KD-40P	Diffuse, 40cm, PNP, cable
KD-L09CN	Convergent, 9cm, NPN, connector
KD-L09CP	Convergent, 9cm, PNP, connector
KD-L09N	Convergent, 9cm, NPN, cable
KD-L09P	Convergent, 9cm, PNP, cable
KR-250CN	Retro, 2.5 meter, NPN, connector
KR-250CP	Retro, 2.5 meter, PNP, connector
KR-250N	Retro, 2.5 meter, NPN, cable
KR-250P	Retro, 2.5 meter, PNP, cable
KR-Q150CNW	TFT application, 1.5 meter, NPN, connector
KR-Q150CPW	TFT application, 1.5 meter, PNP, connector
KR-Q150NW	TFT application, 1.5 meter, NPN, cable
KR-Q150PW	TFT application, 1.5 meter, PNP, cable
KR-Q300CNW	TFT application, 3 meter, NPN, connector
KR-Q300CPW	TFT application, 3 meter, PNP, connector
KR-Q300NW	TFT application, 3 meter, NPN, cable
KR-Q300PW	TFT application, 3 meter, PNP, cable
KR-Q50CNW	TFT application, 50 cm, NPN, connector
KR-Q50CPW	TFT application, 50 cm, PNP, connector
KR-Q50NW	TFT application, 50 cm, NPN, cable
KR-Q50PW	TFT application, 50 cm, PNP, cable
KT-700CN	T/B, 7 meter, NPN, connector

KT-700CP	T/B, 7 meter, PNP, connector
KT-700N	T/B, 7 meter, NPN, cable
KT-700P	T/B, 7 meter, PNP, cable

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NF-DA01	Fine spot lens
NF-DA02	Fine spot lens
NF-DB01	Coaxial M6
NF-DB01-10	10 meter version of NF-DB01
NF-DB02	Sleeve 90 mm M6
NF-DB03	Coaxial M6 sleeve
NF-DC02	Convergent
NF-DF03	Liquid detection
NF-DH01	High Temperature 180°C
NF-DH02	High Temperature 100°C
NF-DK04	Standard 3 mm Smooth head
NF-DK04Z	Super Flexible 3 mm Smooth head
NF-DK06	Standard M3 sleeve
NF-DK21	Coaxial M3
NF-DK22	Fine Sleeve 2.5 mm Smooth head
NF-DK23	Coaxial 3 mm Smooth head
NF-DK33	Side-view Sleeve 5 mm Smooth head
NF-DK43	Fine Sleeve 4 mm Smooth head
NF-DK63Z	Super Flexible M4 w/Sleeve
NF-DK66	Super Flexible M4
NF-DK67	Super Flexible M6
NF-DM01	Standard M4
NF-DM02	Coaxial M4
NF-DM03	Sleeve 90 mm M4
NF-DR01	R4 Flexible type M6
NF-DR02	R4 flexible type M3
NF-DR03	R4 Flexible 3 mm Smooth head
NF-DR04	R4 Flexible 1.5 mm Smooth head
NF-DR05	Fine Sleeve 3 mm Smooth head
NF-DR06	R4 flexible M4
NF-DS06	Standard M3
NF-DT01	Coaxial M3
NF-DT02	Sleeve 15mm M3
NF-DT03	Standard 2.5 mm Smooth head
NF-DT04	Sleeve 15mm M3
NF-DT05	Sleeve 28mm M4
NF-DV01	Side-view Sleeve 5 mm Smooth head
NF-DV02	Side-view Sleeve 3 mm Smooth head
NF-DV03	Side-view Sleeve M6
NF-DY01	Chemical Resistant
(Thru-beam type)	
NF-TB03	Sleeve 90 mm M4
NF-TH01	High Temperature 100°C
NF-TH02	High Temperature 180°C
NF-TK16	Side-view 4 mm Smooth head
NF-TK34	Side-view Sleeve 3 mm Smooth head
NF-TK75	Sleeve 15 mm M3
NF-TS08	Side-view 3 mm Smooth head
NF-TS10	5.25 mm Array
NF-TS12	Side-view 4 mm Smooth head
NF-TS14	10.5 mm Array
NF-TS22H	Wafer mapping application
NF-TS22M	Wafer mapping application
NF-TS22V	Wafer mapping application
NF-TS23	Wafer mapping application
NF-TS25	Wafer mapping application
NF-TT01	Fine Sleeve 5 mm Smooth head
NF-TV01	Side-view Sleeve 3 mm Smooth head
NF-TV02	Side-view Sleeve 2.5 mm Smooth head

NF-TV04	Side-view Sleeve M3
NF-TY01	Chemical Resistant
NF-TY02	Chemical Resistant
NF-TA01	Thru-beam extension lens
NF-TA02	Thru-beam side-view lens
NF-TB01	Standard M4
NF-TB01-10	10 meter version of NF-TB01
NF-TB02	Standard M4
NF-TK05	Super Flexible 3 mm Smooth head
NF-TK77	Super Flexible M4
NF-TM01	Fine Head M3
NF-TM02	Fine Head M3 with sleeve
NF-TM03	Fine head 1.5 mm Smooth
NF-TR01	R4 Flexible M4
NF-TR02	R4 Flexible M3
NF-TR03	R4 Flexible 1.5 mm Smooth head
NF-TS07	Standard 3 mm Smooth head
(Water sensing type)	
NF-DW01	Moisture Fiber, Diffuse
NF-TW01	Moisture Fiber, Thru-beam
(Glass fiber optics type)	
NF-DH83	High Temperature 300°C
NF-TH84	High Temperature 300°C
NF-TH04S	200°C, 100mm, fluorine coated jacket
NF-TH05S	200°C, 350mm, fluorine coated jacket
NF-TS24	300°C, 650mm, SUS 303 armed
NF-TS27	200°C, 500mm, SUS 303 armed

NF02 / NF25 series Hex-shaped fiber 154 page	
NF02-DK	Hex-shape Diffuse Reflective fiber, regular, R=2
NF02-TK	Hex-shape Thru-Beam fiber, Multicore, R=2
NF25-D	Hex-shape Diffuse Reflective fiber, regular, R=25
NF25-DH	Hex-shape Diffuse Reflective fiber, 105°C, R=25
NF25-T	Hex-shape Thru-Beam fiber, regular, R=25
NF25-TH	Hex-shape Thru-Beam fiber, 105°C, R=25

S series Small dimensions sensor 50 page	
SD-20CN	Diffuse, 20cm, connector, NPN
SD-20CP	Diffuse, 20cm, connector, PNP
SD-20N	Diffuse, 20cm, cable, NPN
SD-20P	Diffuse, 20cm, cable, PNP
SR-150CN	Retro reflection, 1.5 meter, connector, NPN
SR-150CP	Retro reflection, 1.5 meter, connector, PNP
SR-150N	Retro reflection, 1.5 meter, cable, NPN
SR-150P	Retro reflection, 1.5 meter, cable, PNP
ST-400CN	Thru-beam, 4 meter, connector, NPN
ST-400CP	Thru-beam, 4 meter, connector, PNP
ST-400N	Thru-beam, 4 meter, cable, NPN
ST-400P	Thru-beam, 4 meter, cable, PNP
BGS-S03CN	BGS, 3cm, M8 connector, NPN
BGS-S03CP	BGS, 3cm, M8 connector, PNP
BGS-S03N	BGS, 3cm, cable, NPN
BGS-S03P	BGS, 3cm, cable, PNP
BGS-S08CN	BGS, 8cm, connector, NPN
BGS-S08CP	BGS, 8cm, connector, PNP
BGS-S08N	BGS, 8cm, cable, NPN
BGS-S08P	BGS, 8cm, cable, PNP

SR-Q series Glass / transparent object sensor 46 page	
SR-Q50CNW	TFT application, 50 cm, connector, NPN
SR-Q50CPW	TFT application, 50 cm, connector, PNP
SR-Q50NW	TFT application, 50 cm, cable, NPN
SR-Q50PW	TFT application, 50 cm, cable, PNP

TMC series Timing comparator 159 page	
TMC-N11	Timing Comparator, NPN
TMC-P11	Timing Comparator, PNP

V series 100-264V AC / DC free voltage, terminal chamber type 36 page	
VD-100CN	Diffuse, 1 meter, NPN, connector.
VD-100CP	Diffuse, 1 meter, PNP, connector.
VD-100N	Diffuse, 1 meter, NPN, Terminal connection.
VD-100P	Diffuse, 1 meter, PNP, Terminal connection.
VD-130	Diffuse, 1.3 meter, Relay output, Terminal connection.
VD-130T	Diffuse, 1.3 meter, Relay output, Terminal connection, Timer
VD-250CN	Diffuse, 2.5 meter, NPN, connector.
VD-250CP	Diffuse, 2.5 meter, PNP, connector.
VD-250N	Diffuse, 2.5 meter, NPN, Terminal connection.
VD-250P	Diffuse, 2.5 meter, PNP, Terminal connection.
VD-300	Diffuse, 3 meter, Relay output, Terminal connection.
VD-300T	Diffuse, 3 meter, Relay output, Terminal connection, Timer
VR-1000	Retro, 10 meter, Relay output, Terminal connection
VR-1000T	Retro, 10 meter, Relay output, Terminal connection, Timer
VR-800CN	Retro, 8 meter, NPN, connector
VR-800CP	Retro, 8 meter, PNP, connector
VR-800N	Retro, 8 meter, NPN, Terminal connection
VR-800P	Retro, 8 meter, PNP, Terminal connection
VT-3000CN	T/B, 30 meter, NPN, connector
VT-3000CP	T/B, 30 meter, PNP, connector
VT-3000N	T/B, 30 meter, NPN, Terminal connection
VT-3000P	T/B, 30 meter, PNP, Terminal connection
VT-4000	T/B, 40 meter, Relay output, Terminal connection
VT-4000T	T/B, 40 meter, Relay output, Terminal connection, Timer
BGS-V2000	BGS, 2 meter, Relay output, Terminal connection
BGS-V2000CN	BGS, connector, Terminal connection, NPN
BGS-V2000CP	BGS, connector, Terminal connection, PNP
BGS-V2000N	BGS, 2 meter, Terminal connection, NPN
BGS-V2000P	BGS, 2 meter, Terminal connection, PNP
BGS-V2000T	BGS with timer, 2 meter, Relay output, Terminal connection

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V2R-800CDP	Retro, 8 meter, PNP, connector
V2R-800DN	Retro, 8 meter, NPN, cable
V2R-800DP	Retro, 8 meter, PNP, cable
V2T-2000	T/B, 20 meter, Relay output, cable
V2T-2000CDN	T/B, 20 meter, NPN, connector
V2T-2000CDP	T/B, 20 meter, PNP, connector
V2T-2000DN	T/B, 20 meter, NPN, cable
V2T-2000DP	T/B, 20 meter, PNP, cable
BGS-V30	BGS, 30 cm, Relay output, cable
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BGS-V30CP	BGS, 30 cm, PNP, connector
BGS-V30N	BGS, 30 cm, NPN, cable
BGS-V30P	BGS, 30 cm, PNP, cable
BGS-V50	BGS, 50 cm, Relay output, cable
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BGS-V80	BGS, 80 cm, Relay output, cable
BGS-V80CN	BGS, 80 cm, NPN, connector
BGS-V80CP	BGS, 80 cm, PNP, connector
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BGS-V80P	BGS, 80 cm, PNP, cable

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V3D-130CN	Diffuse, 1.3 meter, NPN output, M12 QD
V3D-130CP	Diffuse, 1.3 meter, PNP output, M12 QD
V3D-130N	Diffuse, 1.3 meter, NPN output, cable
V3D-130P	Diffuse, 1.3 meter, PNP output, cable
V3R-1000	Retro, 10 meter, Relay output, cable
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V3R-1000N	Retro, 10 meter, NPN output, cable
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V3T-4000CP	T/B, 40 meter, PNP output, M12 QD
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YD-L1N	Convergent, 16mm, cable, NPN
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ZT-L3000P	Laser, T/B, 30 meter, PNP, cable
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BGS-ZL10N	Laser BGS, 10cm, cable, NPN
BGS-ZL10P	Laser BGS, 10cm, cable, PNP
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54	BGS-Z30N	BGS, 30cm, cable, NPN
54	BGS-Z30P	BGS, 30cm, cable, PNP
110	BGS-ZL10CN	Laser BGS, 10cm, M8 QD, NPN
110	BGS-ZL10CP	Laser BGS, 10cm, M8 QD, PNP
110	BGS-ZL10N	Laser BGS, 10cm, cable, NPN
110	BGS-ZL10P	Laser BGS, 10cm, cable, PNP
110	BGS-ZL30CN	Laser BGS, 30cm, M8 QD, NPN
110	BGS-ZL30CP	Laser BGS, 30cm, M8 QD, PNP
110	BGS-ZL30N	Laser BGS, 30cm, cable, NPN
110	BGS-ZL30P	Laser BGS, 30cm, cable, PNP
129	BIF-CWP	Trimmer type, M8 connector, NPN
129	BIF-CWP	Trimmer type, M8 connector, PNP
129	BIF-WN	Trimmer type, cable, NPN
129	BIF-WP	Trimmer type, cable, PNP
58	BL-100-M1	Slit for ZT-1200(N/P)
59	BL-100-POLF	Polarizing filter Z series Thru-beam type
52	BL-150-10	Slit for ST-400
58	BL-160-SK	Slit for S series & Z series
109	BL-W130L-2	Slit Mask for DSTA-200 sensor head
109	BL-W130L-1	Beam Selector attachment for D2SA series heads
20	BL-W2F-1	Slit for ET-500
20	BL-W2F-1.5	Slit for ET-500

page	product name	title
86	BP-01FA	Sensor checker
125	BRF-CN	Regular type, M8 connector, NPN
125	BRF-CP	Regular type, M8 connector, PNP
125	BRF-N	Regular type, cable, NPN
125	BRF-P	Regular type, cable, PNP
125	BRF-CHN	50μs, M8 connector, NPN
125	BRF-CHP	50μs, M8 connector, PNP
125	BRF-HN	50μs, cable, NPN
125	BRF-HP	50μs, cable, PNP

C		
page	product name	title
17	CCN-L	L-shape connector for C series
17	CCN-S	Straight shape connector for C series
165	CD1-100CN	Laser, 100+/-35mm, connector, NPN
165	CD1-100CP	Laser, 100+/-35mm, connector, PNP
165	CD1-100N	Laser, 100+/-35mm, cable, NPN
165	CD1-100P	Laser, 100+/-35mm, cable, PNP
165	CD1-130CN	Laser, 130+/-50mm, connector, NPN
165	CD1-130CP	Laser, 130+/-50mm, connector, PNP
165	CD1-130N	Laser, 130+/-50mm, cable, NPN
165	CD1-130P	Laser, 130+/-50mm, cable, PNP
165	CD1-250CN	Laser, 250+/-150mm, connector, NPN
165	CD1-250CP	Laser, 250+/-150mm, connector, PNP
165	CD1-250N	Laser, 250+/-150mm, cable, NPN
165	CD1-250P	Laser, 250+/-150mm, cable, PNP
165	CD1-30CN	Laser, 30+/-4mm, connector, NPN
165	CD1-30CP	Laser, 30+/-4mm, connector, PNP
165	CD1-30N	Laser, 30+/-4mm, cable, NPN
165	CD1-30P	Laser, 30+/-4mm, cable, PNP
165	CD1-50CN	Laser, 50+/-10mm, connector, NPN
165	CD1-50CP	Laser, 50+/-10mm, connector, PNP
165	CD1-50N	Laser, 50+/-10mm, cable, NPN
165	CD1-50P	Laser, 50+/-10mm, cable, PNP
171	CD3-100CN	CCD, 100+/-40mm, connector, NPN
171	CD3-100CP	CCD, 100+/-40mm, connector, PNP
171	CD3-100N	CCD, 100+/-40mm, cable, NPN
171	CD3-100P	CCD, 100+/-40mm, cable, PNP
171	CD3-250CN	CCD, 250+/-150mm, connector, NPN
171	CD3-250CP	CCD, 250+/-150mm, connector, PNP
171	CD3-250N	CCD, 250+/-150mm, cable, NPN
171	CD3-250P	CCD, 250+/-150mm, cable, PNP
171	CD3-30CN	CCD, 30+/-4mm, connector, NPN
171	CD3-30CP	CCD, 30+/-4mm, connector, PNP
171	CD3-30N	CCD, 30+/-4mm, cable, NPN
171	CD3-30P	CCD, 30+/-4mm, cable, PNP
171	CD3-50CN	CCD, 50+/-10mm, connector, NPN
171	CD3-50CP	CCD, 50+/-10mm, connector, PNP
171	CD3-50N	CCD, 50+/-10mm, cable, NPN
171	CD3-50P	CCD, 50+/-10mm, cable, PNP
171	CD3-80CN	CCD, 80+/-15mm, connector, NPN
171	CD3-80CP	CCD, 80+/-15mm, connector, PNP
171	CD3-80N	CCD, 80+/-15mm, cable, NPN
171	CD3-80P	CCD, 80+/-15mm, cable, PNP
177	CD4-30	CMOS laser head, 30+/-5mm
177	CD4-30-3R	Class III type of CD4-30
177	CD4-85	CMOS laser head, 85+/-20mm
177	CD4-85-3R	Class III type of CD4-85
177	CD4-350	CMOS laser head, 350+/-100mm
177	CD4-350-3R	Class III type of CD4-350
185	CD4-L25	Specular type laser head
185	CD4A-LN	Amplifier for CD4-L25, NPN
185	CD4A-LP	Amplifier for CD4-L25, PNP
177	CD4A-N	Amplifier, NPN

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177	CD4A-P	Amplifier, PNP
15	CDD-11CN	Diffuse, 11cm, NPN, M8 connector
15	CDD-11CP	Diffuse, 11cm, PNP, M8 connector
15	CDD-11N	Diffuse, 11cm, NPN, cable
15	CDD-11P	Diffuse, 11cm, PNP, cable
15	CDD-40CN	Diffuse, 40cm, NPN, M8 connector
15	CDD-40CP	Diffuse, 40cm, PNP, M8 connector
15	CDD-40N	Diffuse, 40cm, NPN, cable
15	CDD-40P	Diffuse, 40cm, PNP, cable
15	CRD-300CN	Retro, 3 meter, NPN, M8 connector
15	CRD-300CP	Retro, 3 meter, PNP, M8 connector
15	CRD-300N	Retro, 3 meter, NPN, cable
15	CRD-300P	Retro, 3 meter, PNP, cable
15	CRDF-100CN	Retro with Polarized Filter, M8 connector, NPN
15	CRDF-100CP	Retro with Polarized Filter, M8 connector, PNP
15	CRDF-100N	Retro with Polarized Filter, 1 meter, NPN, cable
15	CRDF-100P	Retro with Polarized Filter, 1 meter, PNP, cable
15	CTD-1500CN	T/B 15 meter, NPN, M8 connector
15	CTD-1500CP	T/B 15 meter, PNP, M8 connector
15	CTD-1500N	T/B 15 meter, NPN, cable
15	CTD-1500P	T/B 15 meter, PNP, cable

D		
page	product name	title
117	D2GF-2TCN3	Green LED, M8DQ - 3pin, NPN
117	D2GF-2TCN4	Green LED, M8DQ - 4pin, NPN
117	D2GF-2TCP3	Green LED, M8DQ - 3pin, PNP
117	D2GF-2TCP4	Green LED, M8DQ - 4pin, PNP
117	D2GF-2TN	Green LED, cable, NPN
117	D2GF-2TP	Green LED, cable, PNP
117	D2GF-TCN4	Green LED, M8DQ - 4pin, NPN
117	D2GF-TCP4	Green LED, M8DQ - 4pin, PNP
117	D2GF-TMCN4	Master Unit, Red LED, M8QD - 4pin, NPN
117	D2GF-TMCP4	Master Unit, Red LED, M8QD - 4pin, PNP
117	D2GF-TMN	Master Unit, Red LED, cable, NPN
117	D2GF-TMP	Master Unit, Red LED, cable, PNP
117	D2GF-TN	Green LED, cable, NPN
117	D2GF-TP	Green LED, cable, PNP
117	D2GF-TSCN4	Slave Unit, Red LED, M8QD - 4pin, NPN
117	D2GF-TSCP4	Slave Unit, Red LED, M8QD - 4pin, PNP
117	D2GF-TSN	Slave Unit, Red LED, cable, NPN
117	D2GF-TSP	Slave Unit, Red LED, cable, PNP
117	D2RF-2TAN	Analogue output, Red LED, cable, NPN
117	D2RF-2TAP	Analogue output, Red LED, cable, PNP
117	D2RF-2TCN3	Red LED, M8DQ - 3pin, NPN
117	D2RF-2TCN4	Red LED, M8DQ - 4pin, NPN
117	D2RF-2TCP3	Red LED, M8DQ - 3pin, PNP
117	D2RF-2TCP4	Red LED, M8DQ - 4pin, PNP
117	D2RF-2TN	Red LED, cable, NPN
117	D2RF-2TP	Red LED, cable, PNP
117	D2RF-TAN	Analogue output, Red LED, cable, NPN
117	D2RF-TAP	Analogue output, Red LED, cable, PNP
117	D2RF-TCN4	Red LED, M8DQ - 4pin, NPN
117	D2RF-TCP4	Red LED, M8DQ - 4pin, PNP
117	D2RF-TMCN4	Master Unit, Red LED, M8QD - 4pin, NPN
117	D2RF-TMCP4	Master Unit, Red LED, M8QD - 4pin, PNP
117	D2RF-TMN	Master Unit, Red LED, cable, NPN
117	D2RF-TMP	Master Unit, Red LED, cable, PNP
117	D2RF-TN	Red LED, cable, NPN
117	D2RF-TP	Red LED, cable, PNP
117	D2RF-TSCN4	Slave Unit, Red LED, M8QD - 4pin, NPN
117	D2RF-TSCP4	Slave Unit, Red LED, M8QD - 4pin, PNP
117	D2RF-TSN	Slave Unit, Red LED, cable, NPN
117	D2RF-TSP	Slave Unit, Red LED, cable, PNP

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100	D2SA-MN	Full Function Type, NPN, cable 6 cores
100	D2SA-MN3	Economical Type, NPN, cable 6 cores
100	D2SA-MN3S	Economical Type, NPN, cable 6 cores
100	D2SA-MN-M8	Economical Type, NPN, M8 QD
100	D2SA-MNS	Full Function Type, NPN, cable 6 cores
100	D2SA-MNS-M8	Economical Type, NPN, M8 QD
100	D2SA-MP	Full Function Type, PNP, cable 6 cores
100	D2SA-MP3	Economical Type, PNP, cable 6 cores
100	D2SA-MP3S	Economical Type, PNP, cable 6 cores
100	D2SA-MP-M8	Economical Type, PNP, M8 QD
100	D2SA-MPS	Full Function Type, PNP, cable 6 cores
100	D2SA-MPS-M8	Economical Type, PNP, M8 QD
100	D2SA-SN	Full Function Type, NPN, cable 4 cores
100	D2SA-SN1	Economical Type, NPN, cable 1 core
100	D2SA-SN-M8	Economical Type, NPN, M8 QD
100	D2SA-SP	Full Function Type, PNP, cable 4 cores
100	D2SA-SP1	Economical Type, PNP, cable 1 core
100	D2SA-SP-M8	Economical Type, PNP, M8 QD
79	DM-18TCN	Color Mark, 18mm, NPN, M8 connector
79	DM-18TCP	Color Mark, 18mm, PNP, M8 connector
79	DM-18TN	Color Mark, 18mm, NPN, cable
79	DM-18TP	Color Mark, 18mm, PNP, cable
89	DR-500CN	LASER Retro Reflective, 5m, NPN, M8 connector
89	DR-500CP	LASER Retro Reflective, 5m, PNP, M8 connector
89	DR-500N	LASER Retro Reflective, 5m, NPN, cable
89	DR-500P	LASER Retro Reflective, 5m, PNP, cable
89	DR-Q150TCN	Glass detection, LASER Retro Reflective, 1.5 m, NPN, M8 cn.
89	DR-Q150TCP	Glass detection, LASER Retro Reflective, 1.5 m, PNP, M8 cn.
89	DR-Q150TN	Glass detection, LASER Retro Reflective, 1.5 m, NPN, cable
89	DR-Q150TP	Glass detection, LASER Retro Reflective, 1.5 m, PNP, cable
89	DR-Q400TCN	Glass detection, LASER Retro Reflective, 4 m, NPN, M8 cn.
89	DR-Q400TCP	Glass detection, LASER Retro Reflective, 4 m, PNP, M8 cn.
89	DR-Q400TN	Glass detection, LASER Retro Reflective, 4 m, NPN, cable
89	DR-Q400TP	Glass detection, LASER Retro Reflective, 4 m, PNP, cable
100	DSD-100	Diffuse Reflective Head
109	DSL-8L04-2-130	QD cable for Thru-beam Head
100	DSR-5000	Retro Head 50 meter
100	DSR-800	Retro Reflective Head
100	DSTA-200	Thru-Beam Head, Line Beam
100	DSTA-200-M8	Thru-Beam Head, Line Beam, M8 QD
100	DSTC-200	Thru-Beam Head, round spot
100	DSTC-200-M8	Thru-Beam Head, round spot, M8 QD
89	DT-4000CN	LASER Thru-beam, 40m, NPN, M8 connector
89	DT-4000CP	LASER Thru-beam, 40m, PNP, M8 connector
89	DT-4000N	LASER Thru-beam, 40m, NPN, cable
89	DT-4000P	LASER Thru-beam, 40m, PNP, cable

E		
page	product name	title
18	EL-08ND	NPN, 2m cable, Dark-ON
18	EL-08ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	EL-08ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	EL-08NL	NPN, 2m cable, Light-ON
18	EL-08NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	EL-08NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	EL-08PD	PNP, 2m cable, Dark-ON
18	EL-08PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	EL-08PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	EL-08PL	PNP, 2m cable, Light-ON
18	EL-08PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	EL-08PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	EL-15ND	NPN, 2m cable, Dark-ON
18	EL-15ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	EL-15ND4	NPN, M8 Pig tail, 4-pins, Dark-ON

page	product name	title
18	EL-15NL	NPN, 2m cable, Light-ON
18	EL-15NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	EL-15NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	EL-15PD	PNP, 2m cable, Dark-ON
18	EL-15PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	EL-15PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	EL-15PL	PNP, 2m cable, Light-ON
18	EL-15PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	EL-15PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	EL-30ND	NPN, 2m cable, Dark-ON
18	EL-30ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	EL-30ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	EL-30NL	NPN, 2m cable, Light-ON
18	EL-30NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	EL-30NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	EL-30PD	PNP, 2m cable, Dark-ON
18	EL-30PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	EL-30PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	EL-30PL	PNP, 2m cable, Light-ON
18	EL-30PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	EL-30PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	ED-100ND	NPN, 2m cable, Dark-ON
18	ED-100ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	ED-100ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	ED-100NL	NPN, 2m cable, Light-ON
18	ED-100NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	ED-100NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	ED-100PD	PNP, 2m cable, Dark-ON
18	ED-100PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	ED-100PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	ED-100PL	PNP, 2m cable, Light-ON
18	ED-100PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	ED-100PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	ET-500ND	NPN, 2m cable, Dark-ON
18	ET-500ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	ET-500ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	ET-500NL	NPN, 2m cable, Light-ON
18	ET-500NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	ET-500NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	ET-500PD	PNP, 2m cable, Dark-ON
18	ET-500PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	ET-500PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	ET-500PL	PNP, 2m cable, Light-ON
18	ET-500PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	ET-500PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	EL-S15ND	NPN, 2m cable, Dark-ON
18	EL-S15ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	EL-S15ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	EL-S15NL	NPN, 2m cable, Light-ON
18	EL-S15NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	EL-S15NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	EL-S15PD	PNP, 2m cable, Dark-ON
18	EL-S15PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	EL-S15PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	EL-S15PL	PNP, 2m cable, Light-ON
18	EL-S15PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	EL-S15PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	ED-S30ND	NPN, 2m cable, Dark-ON
18	ED-S30ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	ED-S30ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	ED-S30NL	NPN, 2m cable, Light-ON
18	ED-S30NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	ED-S30NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	ED-S30PD	PNP, 2m cable, Dark-ON
18	ED-S30PD3	PNP, M8 Pig tail, 3-pins, Dark-ON

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18	ED-S30PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	ED-S30PL	PNP, 2m cable, Light-ON
18	ED-S30PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	ED-S30PL4	PNP, M8 Pig tail, 4-pins, Light-ON
18	ET-S500ND	NPN, 2m cable, Dark-ON
18	ET-S500ND3	NPN, M8 Pig tail, 3-pins, Dark-ON
18	ET-S500ND4	NPN, M8 Pig tail, 4-pins, Dark-ON
18	ET-S500NL	NPN, 2m cable, Light-ON
18	ET-S500NL3	NPN, M8 Pig tail, 3-pins, Light-ON
18	ET-S500NL4	NPN, M8 Pig tail, 4-pins, Light-ON
18	ET-S500PD	PNP, 2m cable, Dark-ON
18	ET-S500PD3	PNP, M8 Pig tail, 3-pins, Dark-ON
18	ET-S500PD4	PNP, M8 Pig tail, 4-pins, Dark-ON
18	ET-S500PL	PNP, 2m cable, Light-ON
18	ET-S500PL3	PNP, M8 Pig tail, 3-pins, Light-ON
18	ET-S500PL4	PNP, M8 Pig tail, 4-pins, Light-ON

F		
page	product name	title
68	FGS-D10CN	FGS 10cm, connector, NPN
68	FGS-D10CP	FGS 10cm, connector, PNP
68	FGS-D10N	FGS 10cm, 2 meter cable, NPN
68	FGS-D10P	FGS 10cm, 2 meter cable, PNP
68	FGS-D25CN	FGS 25cm, connector, NPN
68	FGS-D25CP	FGS 25cm, connector, PNP
68	FGS-D25N	FGS 25cm, 2 meter cable, NPN
68	FGS-D25P	FGS 25cm, 2 meter cable, PNP

J		
page	product name	title
29	J2D-H(S)100CN	TEACH-IN Diffuse, IR LED, 100cm, connector, NPN
29	J2D-H(S)100CP	TEACH-IN Diffuse, IR LED, 100cm, connector, PNP
29	J2D-H(S)100N	TEACH-IN Diffuse, IR LED, 100cm, cable, NPN
29	J2D-H(S)100P	TEACH-IN Diffuse, IR LED, 100cm, cable, PNP
29	J2D-H(S)10CN	TEACH-IN Narrow view, Diffuse, 10cm, connector, NPN
29	J2D-H(S)10CP	TEACH-IN Narrow view, Diffuse, 10cm, connector, PNP
29	J2D-H(S)10N	TEACH-IN Narrow view, Diffuse, 10cm, cable, NPN
29	J2D-H(S)10P	TEACH-IN Narrow view, Diffuse, 10cm, cable, PNP
29	J2D-H(S)70CN	TEACH-IN Diffuse, Red LED, 70cm, connector, NPN
29	J2D-H(S)70CP	TEACH-IN Diffuse, Red LED, 70cm, connector, PNP
29	J2D-H(S)70N	TEACH-IN Diffuse, Red LED, 70cm, cable, NPN
29	J2D-H(S)70P	TEACH-IN Diffuse, Red LED, 70cm, cable, PNP
32	J3M-GH(S)01CN	TEACH-IN Mark Sensor, 10mm, connector, NPN
32	J3M-GH(S)01CP	TEACH-IN Mark Sensor, 10mm, connector, PNP
32	J3M-GH(S)01N	TEACH-IN Mark Sensor, 10mm, cable, NPN
32	J3M-GH(S)01P	TEACH-IN Mark Sensor, 10mm, cable, PNP
32	J3R-GH(S)100CN	Retro Reflector type, 1m, M8 connector, NPN
32	J3R-GH(S)100CP	Retro Reflector type, 1m, M8 connector, PNP
32	J3R-GH(S)100N	Retro Reflector type, 1m, cable, NPN
32	J3R-GH(S)100P	Retro Reflector type, 1m, cable, PNP
27	JCN-L	Connector cable M8, 2 meter
27	JCN-S	Connector cable M8, 2 meter
24	JD-H(S)80CN	Diffuse, 80cm, M8 connector, NPN
24	JD-H(S)80CP	Diffuse, 80cm, M8 connector, PNP
24	JD-H(S)80N	Diffuse, 80cm, cable, NPN
24	JD-H(S)80P	Diffuse, 80cm, cable, PNP
24	JD-H(S)L03CN	Convergent, 3cm, connector, NPN
24	JD-H(S)L03CP	Convergent, 3cm, connector, PNP
24	JD-H(S)L03N	Convergent, 3cm, cable, NPN
24	JD-H(S)L03P	Convergent, 3cm, cable, PNP
24	JD-H(S)W08CN	Divergent, 8cm, connector, NPN
24	JD-H(S)W08CP	Divergent, 8cm, connector, PNP
24	JD-H(S)W08N	Divergent, 8cm, cable, NPN

page	product name	title
24	JD-H(S)W08P	Divergent, 8cm, cable, PNP
24	JR-H(S)300CN	Retro, 3 meter, connector, NPN
24	JR-H(S)300CP	Retro, 3 meter, connector, PNP
24	JR-H(S)300N	Retro, 3 meter, cable, NPN
24	JR-H(S)300P	Retro, 3 meter, cable, PNP
24	JT-H(S)1000CNR	Thru-beam, 10 meter, connector, NPN
24	JT-H(S)1000CPR	Thru-beam, 10 meter, connector, PNP
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132	NF-TS07	Standard 3 mm Smooth head
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132	NF-TS22V	Wafer mapping application
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132	NF-TV01	Side-view Sleeve 3 mm Smooth head
132	NF-TV02	Side-view Sleeve 2.5 mm Smooth head
132	NF-TV04	Side-view Sleeve M3
132	NF-TW01	Moisture Fiber, Thru-beam
132	NF-TY01	Chemical Resistant
132	NF-TY02	Chemical Resistant

P		
page	product name	title
59	P250F	Standard reflector for D series
26	P-45	Small reflector
59	P-45A	Tiny reflector
65	PKF-01	Polarizing filter for KT-700
59	PL10F	Miniature reflector for D series
59	PL20F	Small reflector for D series
85	PLN-1	Sensor stand
85	PLN-1M	Fixture of Reflector

S		
page	product name	title
50	SD-20CN	Diffuse, 20cm, connector, NPN
50	SD-20CP	Diffuse, 20cm, connector, PNP
50	SD-20N	Diffuse, 20cm, cable, NPN
50	SD-20P	Diffuse, 20cm, cable, PNP
26	SJ-01	Slit for J series
65	SK-01	Slit for KT-700
50	SR-150CN	Retro reflection, 1.5 meter, connector, NPN
50	SR-150CP	Retro reflection, 1.5 meter, connector, PNP
50	SR-150N	Retro reflection, 1.5 meter, cable, NPN
50	SR-150P	Retro reflection, 1.5 meter, cable, PNP
46	SR-Q50CNW	TFT application, 50 cm, connector, NPN
46	SR-Q50CPW	TFT application, 50 cm, connector, PNP
46	SR-Q50NW	TFT application, 50 cm, cable, NPN
46	SR-Q50PW	TFT application, 50 cm, cable, PNP
50	ST-400CN	Thru-beam, 4 meter, connector, NPN
50	ST-400CP	Thru-beam, 4 meter, connector, PNP
50	ST-400N	Thru-beam, 4 meter, cable, NPN
50	ST-400P	Thru-beam, 4 meter, cable, PNP

T		
page	product name	title
15	T000	Vertical angle reflector, for CTD-150N and CRD-300N
15	T110	Vertical angle reflector, for CDD-11N
15	T400	Vertical angle reflector, for CDD-40N
159	TMC-N11	Timing Comparator, NPN

page	product name	title
159	TMC-P11	Timing Comparator, PNP

V

page	product name	title
39	V2R-800	Retro, 8 meter, Relay output, cable
39	V2R-800CDN	Retro, 8 meter, NPN, connector
39	V2R-800CDP	Retro, 8 meter, PNP, connector
39	V2R-800DN	Retro, 8 meter, NPN, cable
39	V2R-800DP	Retro, 8 meter, PNP, cable
39	V2T-2000	T/B, 20 meter, Relay output, cable
39	V2T-2000CDN	T/B, 20 meter, NPN, connector
39	V2T-2000CDP	T/B, 20 meter, PNP, connector
39	V2T-2000DN	T/B, 20 meter, NPN, cable
39	V2T-2000DP	T/B, 20 meter, PNP, cable
43	V3D-130	Diffuse, 1.3 meter, Relay output, Cable
43	V3D-130CN	Diffuse, 1.3 meter, NPN output, M12 QD
43	V3D-130CP	Diffuse, 1.3 meter, PNP output, M12 QD
43	V3D-130N	Diffuse, 1.3 meter, NPN output, cable
43	V3D-130P	Diffuse, 1.3 meter, PNP output, cable
43	V3R-1000	Retro, 10 meter, Relay output, cable
43	V3R-1000CN	Retro, 10 meter, NPN output, M12 QD
43	V3R-1000CP	Retro, 10 meter, PNP output, M12 QD
43	V3R-1000N	Retro, 10 meter, NPN output, cable
43	V3R-1000P	Retro, 10 meter, PNP output, cable
43	V3T-4000	T/B, 40 meter, Relay output, cable
43	V3T-4000CN	T/B, 40 meter, NPN output, M12 QD
43	V3T-4000CP	T/B, 40 meter, PNP output, M12 QD
43	V3T-4000N	T/B, 40 meter, NPN output, cable
43	V3T-4000P	T/B, 40 meter, PNP output, cable
17	V-42	Reflector, 42mm
114	V-42F	Small reflector for laser
43	V4D-130	Diffuse, 1.3 meter, Relay output, Terminal Chamber
43	V4D-130CN	Diffuse, 1.3 meter, NPN output, M12 QD
43	V4D-130CP	Diffuse, 1.3 meter, PNP output, M12 QD
43	V4D-130N	Diffuse, 1.3 meter, NPN output, cable
43	V4D-130P	Diffuse, 1.3 meter, PNP output, cable
43	V4R-1000	Retro, 10 meter, Relay output, Terminal Chamber
43	V4R-1000CN	Retro, 10 meter, NPN output, M12 QD
43	V4R-1000CP	Retro, 10 meter, PNP output, M12 QD
43	V4R-1000N	Retro, 10 meter, NPN output, cable
43	V4R-1000P	Retro, 10 meter, PNP output, cable
43	V4T-4000	T/B, 40 meter, Relay output, Terminal Chamber
43	V4T-4000CN	T/B, 40 meter, NPN output, M12 QD
43	V4T-4000CP	T/B, 40 meter, PNP output, M12 QD
43	V4T-4000N	T/B, 40 meter, NPN output, cable
43	V4T-4000P	T/B, 40 meter, PNP output, cable
26	V-60K	Anti-blur reflector, 60mm
17	V-61	Reflector, 61mm
36	VD-100CN	Diffuse, 1 meter, NPN, connector.
36	VD-100CP	Diffuse, 1 meter, PNP, connector.
36	VD-100N	Diffuse, 1 meter, NPN, Terminal connection.
36	VD-100P	Diffuse, 1 meter, PNP, Terminal connection.
36	VD-130	Diffuse, 1.3 meter, Relay output, Terminal connection.
36	VD-130T	Diffuse, 1.3 meter, Relay output, Terminal connection, Timer
36	VD-250CN	Diffuse, 2.5 meter, NPN, connector.
36	VD-250CP	Diffuse, 2.5 meter, PNP, connector.
36	VD-250N	Diffuse, 2.5 meter, NPN, Terminal connection.
36	VD-250P	Diffuse, 2.5 meter, PNP, Terminal connection.
36	VD-300	Diffuse, 3 meter, Relay output, Terminal connection.
36	VD-300T	Diffuse, 3 meter, Relay output, Terminal connection, Timer
36	VR-1000	Retro, 10 meter, Relay output, Terminal connection
36	VR-1000T	Retro, 10 meter, Relay output, Terminal connection, Timer
36	VR-800CN	Retro, 8 meter, NPN, connector
36	VR-800CP	Retro, 8 meter, PNP, connector

page	product name	title
36	VR-800N	Retro, 8 meter, NPN, Terminal connection
36	VR-800P	Retro, 8 meter, PNP, Terminal connection
36	VT-3000CN	T/B, 30 meter, NPN, connector
36	VT-3000CP	T/B, 30 meter, PNP, connector
36	VT-3000N	T/B, 30 meter, NPN, Terminal connection
36	VT-3000P	T/B, 30 meter, PNP, Terminal connection
36	VT-4000	T/B, 40 meter, Relay output, Terminal connection
36	VT-4000T	T/B, 40 meter, Relay output, Terminal connection, Timer

Y

page	product name	title
75	YD-15CN	Diffuse Reflective, 40cm, M8 QD, NPN
75	YD-15CP	Diffuse Reflective, 40cm, M8 QD, PNP
75	YD-15N	Diffuse Reflective, 40cm, cable, NPN
75	YD-15N-M12	Diffuse Reflective, 40cm, M12 pig-tail, NPN
75	YD-15P	Diffuse Reflective, 40cm, cable, PNP
75	YD-15P-M12	Diffuse Reflective, 40cm, M12 pig-tail, PNP
75	YD-L1CN	Convergent, 16mm, M8 QD, NPN
75	YD-L1CP	Convergent, 16mm, M8 QD, PNP
75	YD-L1N	Convergent, 16mm, cable, NPN
75	YD-L1N-M12	Convergent, 16mm, M12 Pig-tail, NPN
75	YD-L1P	Convergent, 16mm, cable, PNP
75	YD-L1P-M12	Convergent, 16mm, M12 Pig-tail, PNP
75	YD-L2CN	Convergent, 43mm, M8 QD, NPN
75	YD-L2CP	Convergent, 43mm, M8 QD, PNP
75	YD-L2N	Convergent, 43mm, cable, NPN
75	YD-L2N-M12	Convergent, 43mm, M12 Pig-tail, NPN
75	YD-L2P	Convergent, 43mm, cable, PNP
75	YD-L2P-M12	Convergent, 43mm, M12 Pig-tail, PNP
75	YR-140CN	Retro Reflective, 3.5meter, M8 QD, NPN
75	YR-140CP	Retro Reflective, 3.5meter, M8 QD, PNP
75	YR-140N	Retro Reflective, 3.5meter, cable, NPN
75	YR-140N-M12	Retro Reflective, 3.5meter, M12 Pig-tail, NPN
75	YR-140P	Retro Reflective, 3.5meter, cable, PNP
75	YR-140P-M12	Retro Reflective, 3.5meter, M12 Pig-tail, PNP
75	YR-Q39CN	Glass/Plastic, 1 meter, M8 QD, NPN
75	YR-Q39CP	Glass/Plastic, 1 meter, M8 QD, PNP
75	YR-Q39N	Glass/Plastic, 1 meter, cable, NPN
75	YR-Q39N-M12	Glass/Plastic, 1 meter, M12 Pig-tail, NPN
75	YR-Q39P	Glass/Plastic, 1 meter, cable, PNP
75	YR-Q39P-M12	Glass/Plastic, 1 meter, M12 Pig-tail, PNP
75	YT-1180CN	Thru-Baem, 30meter, M8 QD, NPN
75	YT-1180CP	Thru-Baem, 30meter, M8 QD, PNP
75	YT-1180N	Thru-Baem, 30meter, cable, NPN
75	YT-1180N-M12	Thru-Baem, 30meter, M12 pig-tail, NPN
75	YT-1180P	Thru-Baem, 30meter, cable, PNP
75	YT-1180P-M12	Thru-Baem, 30meter, M12 pig-tail, PNP

Z

page	product name	title
54	ZD-70CN	Diffuse, 70cm, connector, NPN
54	ZD-70CP	Diffuse, 70cm, connector, PNP
54	ZD-70N	Diffuse, 70cm, cable, NPN
54	ZD-70P	Diffuse, 70cm, cable, PNP
54	ZD-L09CN	Convergent, 9cm, connector, NPN
54	ZD-L09CP	Convergent, 9cm, connector, PNP
54	ZD-L09N	Convergent, 9cm, cable, NPN
54	ZD-L09P	Convergent, 9cm, cable, PNP
110	ZD-L40CN	Laser, 2mm spot diffuse, NPN, M8 connector
110	ZD-L40CP	Laser, 2mm spot diffuse, PNP, M8 connector
110	ZD-L40N	Laser, 2mm spot diffuse, NPN, cable
110	ZD-L40P	Laser, 2mm spot diffuse, PNP, cable
54	ZD-W20CN	Divergent, 20cm, M8 connector, NPN

page	product name	title
54	ZD-W20CP	Divergent, 20cm, M8 connector, PNP
54	ZD-W20N	Divergent, 20cm, cable, NPN
54	ZD-W20P	Divergent, 20cm, cable, PNP
54	ZR-350CN	Retro, 3.5 meter, connector, NPN
54	ZR-350CP	Retro, 3.5 meter, connector, PNP
54	ZR-350N	Retro, 3.5 meter, cable, NPN
54	ZR-350P	Retro, 3.5 meter, cable, PNP
110	ZR-L1000CN	Laser, Retro, 10 meter, NPN, M8 connector
110	ZR-L1000CP	Laser, Retro, 10 meter, PNP, M8 connector
110	ZR-L1000N	Laser, Retro, 10 meter, NPN, cable
110	ZR-L1000P	Laser, Retro, 10 meter, PNP, cable
54	ZR-Q200CN	Retro Reflective for transparent, 2m, NPN, M8
54	ZR-Q200CP	Retro Reflective for transparent, 2m, PNP, M8
54	ZR-Q200N	Retro Reflective for transparent, 2m, NPN, cable
54	ZR-Q200P	Retro Reflective for transparent, 2m, PNP, cable
54	ZR-QX200CN4	Coaxial Retro Reflective for transparent, 2m, NPN, M8
54	ZR-QX200CP4	Coaxial Retro Reflective for transparent, 2m, PNP, M8
54	ZR-QX200N	Coaxial Retro Reflective for transparent, 2m, NPN, cable
54	ZR-QX200P	Coaxial Retro Reflective for transparent, 2m, PNP, cable
54	ZR-X250CN4	Coaxial Retro Reflective, 2.5m, NPN, M8
54	ZR-X250CP4	Coaxial Retro Reflective, 2.5m, PNP, M8
54	ZR-X250N	Coaxial Retro Reflective, 2.5m, NPN, cable
54	ZR-X250P	Coaxial Retro Reflective, 2.5m, PNP, cable
54	ZT-1200CN	T/B, 12 meter, connector, NPN
54	ZT-1200CP	T/B, 12 meter, connector, PNP
54	ZT-1200N	T/B, 12 meter, cable, NPN
54	ZT-1200P	T/B, 12 meter, cable, PNP
110	ZT-L3000CN	Laser, T/B, 30 meter, NPN, M8 connector
110	ZT-L3000CP	Laser, T/B, 30 meter, PNP, M8 connector
110	ZT-L3000N	Laser, T/B, 30 meter, NPN, cable
110	ZT-L3000P	Laser, T/B, 30 meter, PNP, cable

page	product name	title
38	6009 382	M12 connector for V2 series sensors

Photoelectric Sensors

Optex FA is now the second largest supplier of photoelectric sensors in Japan.
Optex provides an extensive selection of sensors to solve most applications.
All sensors are available in Cabled or M8 QD versions and are offered with a choice of NPN or PNP outputs.

C series	15
E series	18
J series	24
J2 series	29
J3 series	32
V series	36
V2 series	39
V3 / V4 series	43
SR-Q series	46
S series	50
Z / BGS-Z series	54
K series	63
FGS-D / BGS-D series	68
BGS-2S series	72
Y series	75
DM-18T series	79
Accessory	85



Photoelectric Sensor C series

Thru-beam type
(Sensing distance : 15m)
· CTD-1500N / P / CN / CP

Retro-reflective type
(Sensing distance : 0.05 - 3m)
· CRD-300N / P / CN / CP

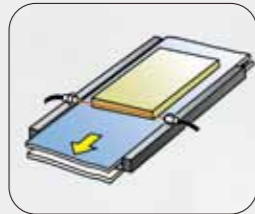
Retro-reflective type with built-in polarizing filter
(Sensing distance : 0.05 - 1m)
· CTDF-100N / P / CN / CP

Diffuse reflective type
(Sensing distance : 11m)
· CDD-11N / P / CN / CP

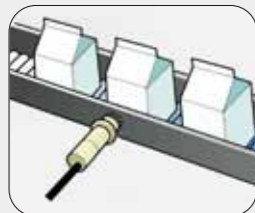
Diffuse reflective type long distance type
(Sensing distance : 40cm)
· CDD-40N / P / CN / CP

- Epoxy filled housing ensures resistance to vibration.
- M12 QD types are available.
- Rigid Nickel Plated Brass housing.

Applications



Positioning of wooden plate



Counting food packages

Features

Nickel plated brass body, resistant to vibration and damage from chemicals.

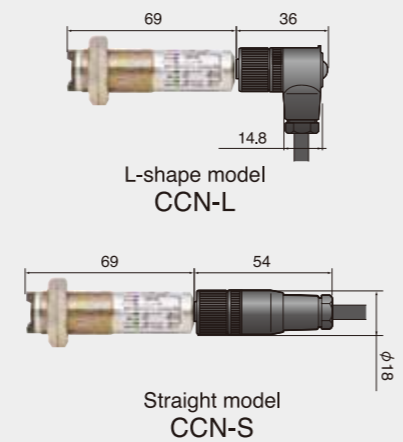
Superior in performance to sensors with plastic bodies in terms of durability and resistance to chemicals, oils and mechanical vibration.

CRDF retro-reflection type with built-in polarizing filter.

The beam can be turned 90 degrees by using the optional side view attachments.

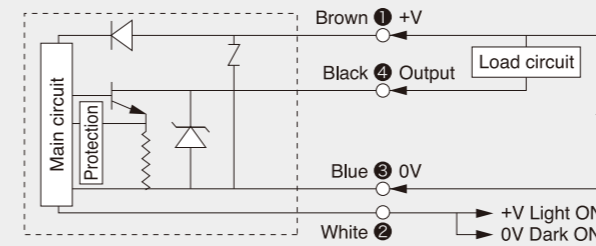


Optional Straight and 90 degree connectors

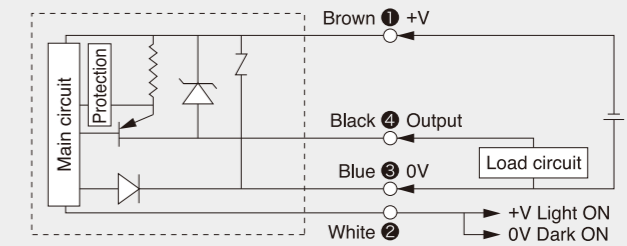


Circuit diagram

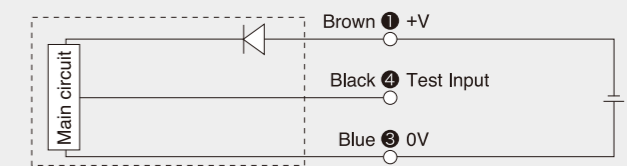
NPN output



PNP output

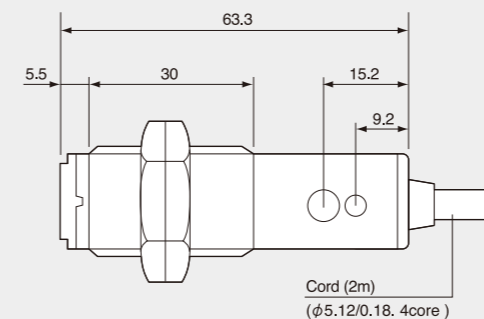


Emitter

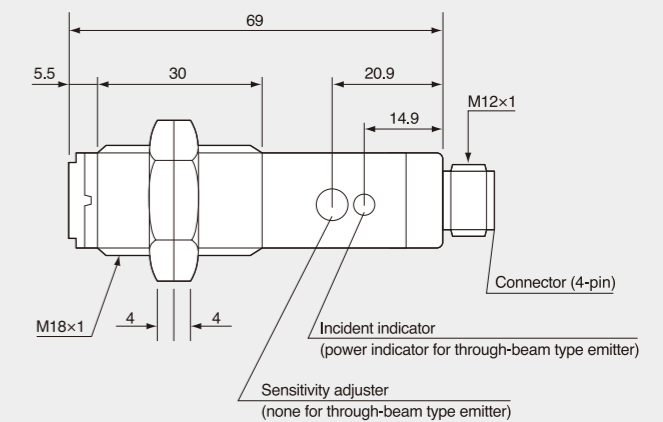


Dimensions

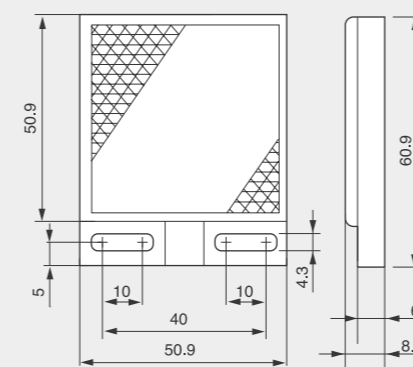
Cable type



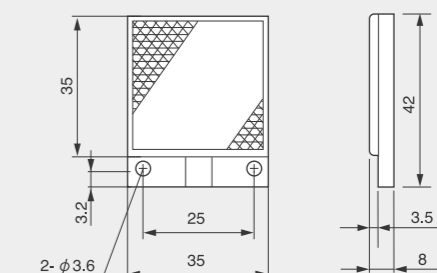
M12 QD type



Standard reflector V-61



Small reflector V-42



(Unit : mm)

Photoelectric Sensor
C series

Photoelectric Sensor
E series



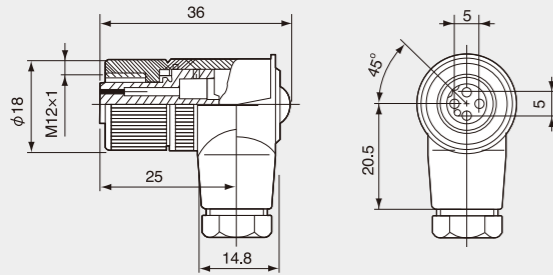
Super side-sense type

ET-S series Thru-beam type
(Sensing distance : 500mm)
· ET-S500NL,3,4 / ND,3,4
· ET-S500PL,3,4 / PD,3,4

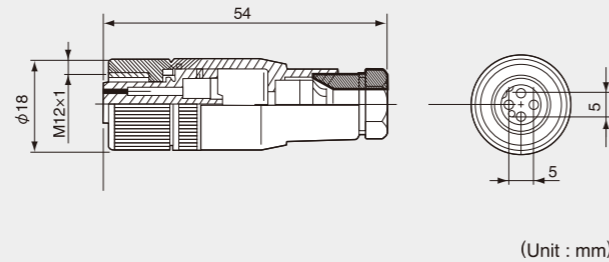
ED-S series Diffuse Reflective type
(Sensing distance : 30mm)
· ED-S30NL,3,4 / ND,3,4
· ED-S30PL,3,4 / PD,3,4

Next page →

90 degree QD connector CCN-L



Standard QD connector CCN-S



(Unit : mm)

Specifications

Model	Thru-beam	Retro-reflective	Retro-reflective w Polarizing filter	Diffuse reflective 11cm	Diffuse reflective 40cm
Cable type	NPN CTD-1500N PNP CTD-1500P	CRD-300N CRD-300P	CRDF-100N CRDF-100P	CDD-11N CDD-11P	CDD-40N CDD-40P
Connector type	NPN CTD-1500CN PNP CTD-1500CP	CRD-300CN CRD-300CP	CRDF-100CN CRDF-100CP	CDD-11CN CDD-11CP	CDD-40CN CDD-40CP
Sensing distance	15m	3m	1m	11cm	40cm
Response time	1.5msec Max				
Operating mode	Light ON / Dark ON selectable				
Hysteresis	NIL			10% Max	
Light source	Infrared		Red	Infrared	
Control output	NPN or PNP Open collector, 100mA Max / 30V DC				
Supply voltage	DC 10 to 30V including 10% of ripple				
Conformity	JIS / C4525, CE, UL				
Power consumption	40mA Max	30mA Max			
Operating temp / humidity	-25 up to 55 °C / 35 up to 95% RH				
Sensitivity adjustment	Single turn potentiometer				
Protection category	IEC 144 IP66				
Shock resistance	50G (500m/S ²), X-Y-Z axis 3 times				
Material	Case : BSBM+Ni, Lens : PC				
Reflector	-	V-61	-	-	-

Options

Standard reflector V-61



Small reflector V-42



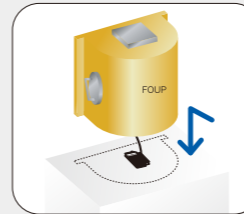
CCN-L 90 degree QD connector



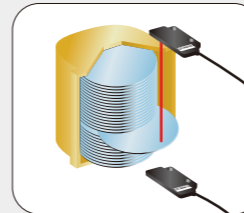
CCN-S Standard QD connector



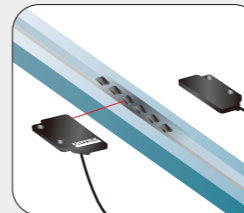
Applications



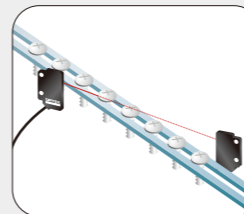
Detecting presence of FOUP



Detection of wafer extending from cassette



Detecting parts presence from parts feeder



Detecting screws at output of feeder

- Super Side-sense Type projects the beam from the 5mm(0.19 inch) of wide edge of the sensor.
- M8 pig-tail connector types are available for all models.
- Tough mechanics. 100G Shock Resistance and IP67 Water tightness.
- Easily visible indicator LED can be seen even from the back.

Features

2 type select

M8 pig-Tail connector for easy maintenance.



Super Side-Sense type



M8 Pig-Tail



Flat type - Front Sense

IP67 rating
RoHS compliant



Operating LED visible in the back

It's convenient. Verifying the operation of the sensor is easy.



Front view

Back view

Universal mounting holes.
Flexible mounting for easy installation.



3.5mm thin dimensions (Flat type)

Leading edge of sensing functions are designed in this thin size. Ideal for space saving.
(Side sense type : 5mm)



**EL-S series
Convergent type**

(Sensing distance : 15mm)
• EL-S15NL,3,4 / ND,3,4
• EL-S15PL,3,4 / PD,3,4

Flat type

**ET series
Thru-beam type**

(Sensing distance : 500mm)
• ET-500NL,3,4 / ND,3,4
• ET-500PL,3,4 / PD,3,4

**ED series
Diffuse Reflective type**

(Sensing distance : 100mm)
• ED-100NL,3,4 / ND,3,4
• ED-100PL,3,4 / PD,3,4

**EL series
Convergent type**

(Sensing distance : 5 - 30mm)
• EL-30NL,3,4 / ND,3,4
• EL-30PL,3,4 / PD,3,4

(Sensing distance : 2 - 15mm)
• EL-15NL,3,4 / ND,3,4
• EL-15PL,3,4 / PD,3,4

(Sensing distance : 3 - 8mm)
• EL-08NL,3,4 / ND,3,4
• EL-08PL,3,4 / PD,3,4

Super Side-Sense type



Unique Side-Sensing Type available in Diffuse, Convergent and Thru-Beam. M8 Pigtail models in both 3 and 4 pin types.

**EL-S series
Convergent Type**

15mm (0.6 inch) sensing distance. Light-On/Dark-On models available. +/-0.1 mm (0.004 inch) repeat accuracy. 2mm (0.07 inch) project spot diameter at 15mm distance. 0.5 msec. response speed.

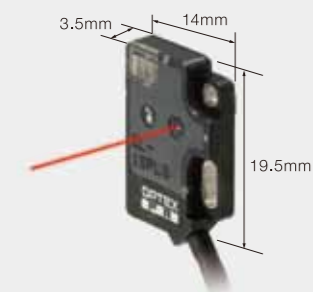
**ED-S series
Diffuse Reflective Type**

30mm sensing distance. Light-On/Dark-On models available. +/-0.05mm (0.002 inch) repeat accuracy. 30mm sensing distance with 10% Hysteresis.

**ET-S series
Thru-Beam Type**

500mm (19.7 inch) sensing distance. Light-On/Dark-On models available. +/-0.1mm (0.004 inch) repeat accuracy. 0.25 msec. response speed.

Flat type - Front Sense



Thin and flat design for space saving. Three different models of Convergent models.

**EL - series
Convergent Type**

3 different sensing distance are available. 30mm (1.18 inch), 15mm (0.6 inch), and 8mm (0.31 inch) for close installation. Compact housing is ideal for space saving.

**ED - series
Diffuse Reflective Type**

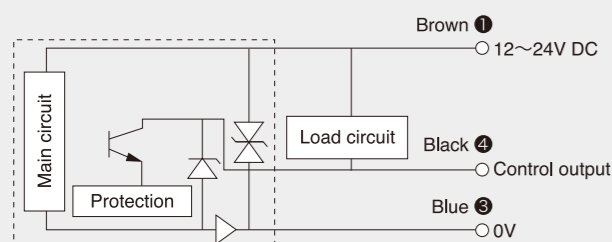
Standard diffuse reflective type with 100mm (3.94 inch) sensing distance.

**ET - series
Thru-Beam Type**

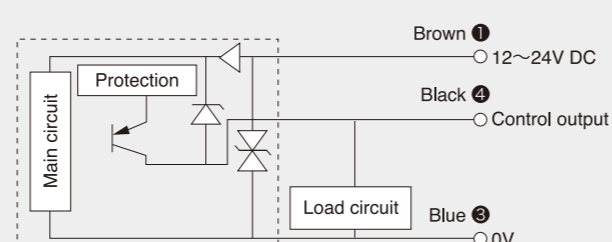
0.5msec response speed and sharp optical system designed in 12 x 20 x 3.5 mm dimensions.

Circuit diagram

NPN output



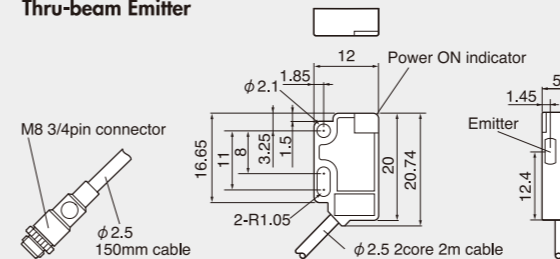
PNP output



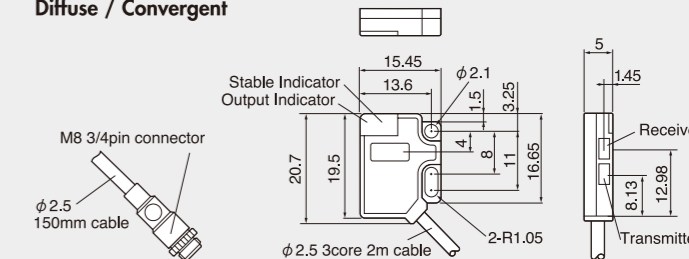
Dimensions

Super side - Sensing type

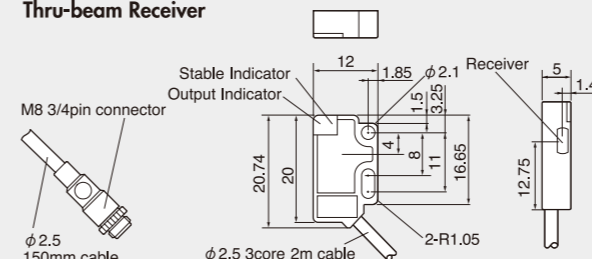
Thru-beam Emitter



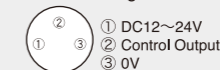
Diffuse / Convergent



Thru-beam Receiver



<3 Pin configuration>

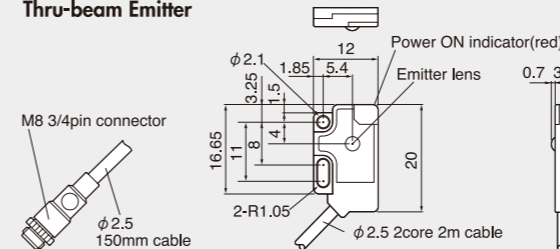


<4 Pin configuration>

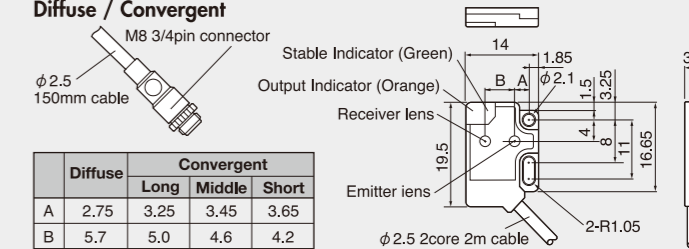


Flat type - Front Sensing

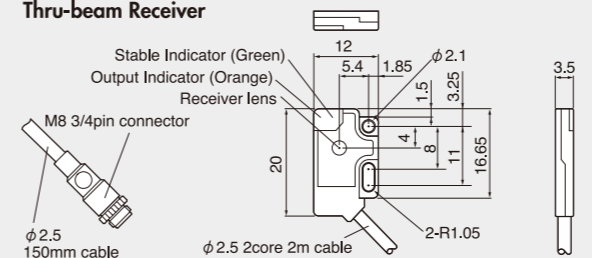
Thru-beam Emitter



Diffuse / Convergent



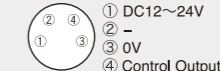
Thru-beam Receiver



<3 Pin configuration>



<4 Pin configuration>

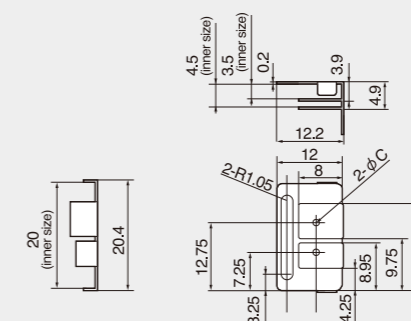


Options

Slit mask
BL-W2F-1 (= φ 1mm)
BL-W2F-1.5 (= φ 1.5mm)

	BL-W2F-1	BL-W2F-1.5
C	1	1.5
D	1	1.5

Material: SUS304 t=0.2



(Unit : mm)

Specifications

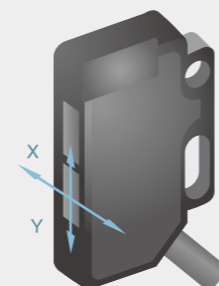
Super Side - Sensing type

Model		Diffuse 30mm	Convergent 15mm	Thru-beam 500mm		
NPN type	Light ON	2m cable	ED-S30NL	EL-S15NL	ET-S500NL	
		M8 pigtail - 3pin	ED-S30NL3	EL-S15NL3	ET-S500NL3	
	Dark ON	M8 pigtail - 4pin	ED-S30NL4	EL-S15NL4	ET-S500NL4	
		2m cable	ED-S30ND	EL-S15ND	ET-S500ND	
PNP type	Light ON	2m cable	ED-S30ND3	EL-S15ND3	ET-S500ND3	
		M8 pigtail - 3pin	ED-S30ND4	EL-S15ND4	ET-S500ND4	
	Dark ON	M8 pigtail - 4pin	ED-S30PL	EL-S15PL	ET-S500PL	
		2m cable	ED-S30PL3	EL-S15PL3	ET-S500PL3	
Environmental illuminance	Sunlight	Incandescent lamp	10,000 lx Max	30mA Max	500mm	
		3,000 lx Max	2 - 15mm	30mA Max	500mm	
	Operating temp / humidity	Storage conditions	-40 up to 70 °C / 35 up to 95%	2 - 15mm	500mm	500mm
		Noise resistance	EN60947-5-2:1998 (Immunity) EN60947-5-2:1998 (radiation)	2 - 15mm	500mm	500mm
Supply voltage	Light ON	2m cable	ED-S30PD	EL-S15PD	ET-S500PD	
		M8 pigtail - 3pin	ED-S30PD3	EL-S15PD3	ET-S500PD3	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Power consumption	Light ON	2m cable	ED-S30NL	EL-S15NL	ET-S500NL	
		M8 pigtail - 3pin	ED-S30NL3	EL-S15NL3	ET-S500NL3	
	Dark ON	M8 pigtail - 4pin	ED-S30NL4	EL-S15NL4	ET-S500NL4	
		2m cable	ED-S30ND	EL-S15ND	ET-S500ND	
Sensing distance	Light ON	2m cable	ED-S30ND3	EL-S15ND3	ET-S500ND3	
		M8 pigtail - 3pin	ED-S30ND4	EL-S15ND4	ET-S500ND4	
	Dark ON	M8 pigtail - 4pin	ED-S30PL	EL-S15PL	ET-S500PL	
		2m cable	ED-S30PL3	EL-S15PL3	ET-S500PL3	
Spot size	Light ON	2m cable	ED-S30PL4	EL-S15PL4	ET-S500PL4	
		M8 pigtail - 3pin	ED-S30PD	EL-S15PD	ET-S500PD	
	Dark ON	M8 pigtail - 4pin	ED-S30PD3	EL-S15PD3	ET-S500PD3	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Objects	Light ON	2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		M8 pigtail - 3pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Repeat accuracy	Light ON	2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		M8 pigtail - 3pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Response time	Light ON	2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		M8 pigtail - 3pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Light source	Light ON	2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		M8 pigtail - 3pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Hysteresis	Light ON	2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		M8 pigtail - 3pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
Control output	Light ON	2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		M8 pigtail - 3pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
	Dark ON	M8 pigtail - 4pin	ED-S30PD4	EL-S15PD4	ET-S500PD4	
		2m cable	ED-S30PD4	EL-S15PD4	ET-S500PD4	

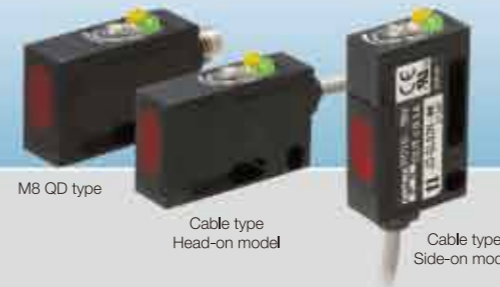
Flat type - Front Sensing

Model		Diffuse 100mm	Convergent 8/15/30mm	Thru-beam 500mm			
NPN type	Light ON	2m cable	ED-100NL	EL-30NL	EL-15NL	EL-08NL	ET-500NL
		M8 pigtail - 3pin	ED-100NL3	EL-30NL3	EL-15NL3	EL-08NL3	ET-500NL3
	Dark ON	M8 pigtail - 4pin	ED-100NL4	EL-30NL4	EL-15NL4	EL-08NL4	ET-500NL4
		2m cable	ED-100ND	EL-30ND	EL-15ND	EL-08ND	ET-500ND
PNP type	Light ON	2m cable	ED-100ND3	EL-30ND3	EL-15ND3	EL-08ND3	ET-500ND3
		M8 pigtail - 3pin	ED-100ND4	EL-30ND4	EL-15ND4	EL-08ND4	ET-500ND4
	Dark ON	M8 pigtail - 4pin	ED-100PL	EL-30PL	EL-15PL	EL-08PL	ET-500PL
		2m cable	ED-100PL3	EL-30PL3	EL-15PL3	EL-08PL3	ET-500PL3
Supply voltage	Light ON	2m cable	ED-100PL4	EL-30PL4	EL-15PL4	EL-08PL4	ET-500PL4
		M8 pigtail - 3pin	ED-100PD	EL-30PD	EL-15PD	EL-08PD	ET-500PD
	Dark ON	M8 pigtail - 4pin	ED-100PD3	EL-30PD3	EL-15PD3	EL-08PD3	ET-500PD3
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Power consumption	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Sensing distance	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Spot size	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Objects	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Response time	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Hysteresis	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Control output	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Environmental illuminance	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Operating temp / humidity	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Storage conditions	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Noise resistance	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Vibration resistance	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Shock resistance	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Protection category	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Warm-up time	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
LED Indicator	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Operating mode	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Connector and cable	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Circuit protection	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Material	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
Conformity	Light ON	2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		M8 pigtail - 3pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
	Dark ON	M8 pigtail - 4pin	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4
		2m cable	ED-100PD4	EL-30PD4	EL-15PD4	EL-08PD4	ET-500PD4

Reference (typical)



Photoelectric Sensor
E series



Photoelectric Sensor
J series

Thru-beam type

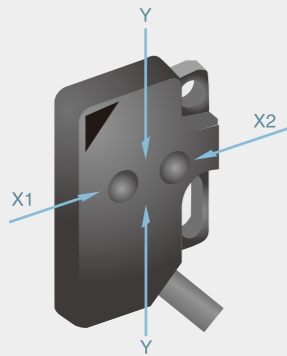
(Sensing distance : 10m)
· JT-H(S)1000NR / PR / CNR / CPR

Retro-reflective type with polarizing filter

(Sensing distance : 3m)
· JR-H(S)300N / P / CN / CP

Next page →

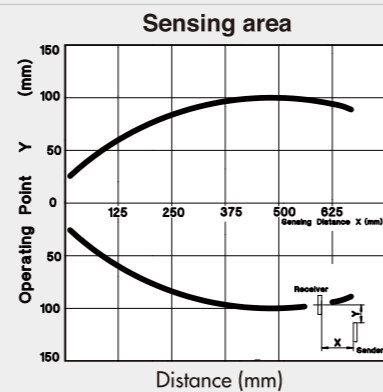
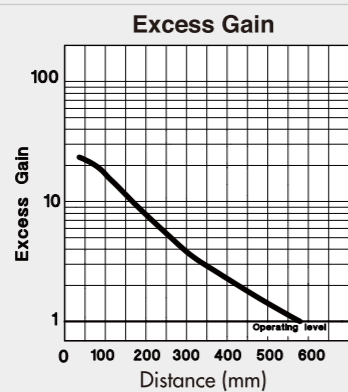
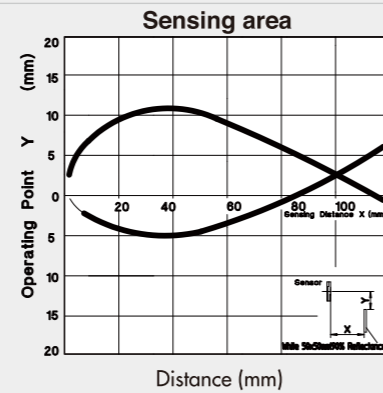
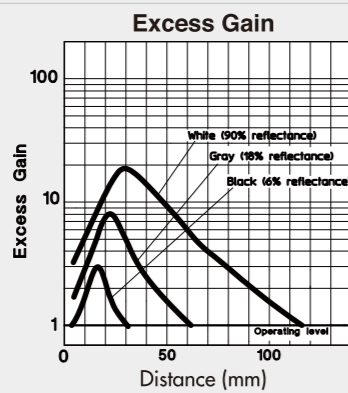
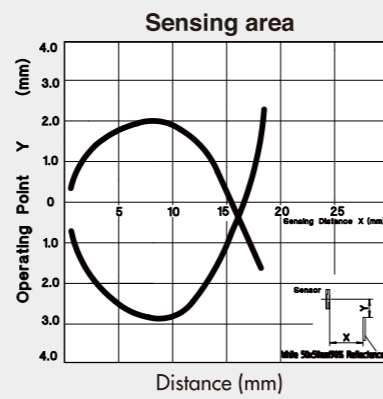
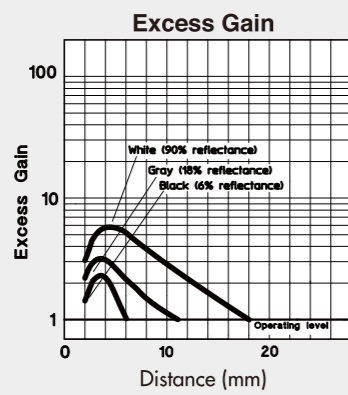
Reference (typical)



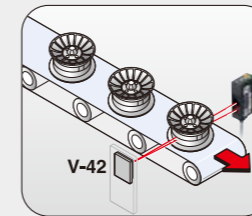
Repeat Accuracy

EL-30			EL-15			EL-08		
X1	X2	Y	X1	X2	Y	X1	X2	Y
0.8	0.8	0.8	0.3	0.3	0.3	0.1	0.1	0.1

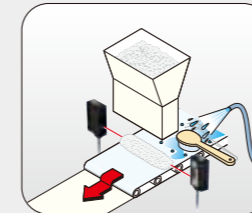
(Unit : mm)



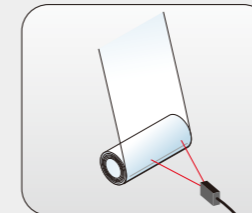
Applications



Counting wheels (JR-S300)



Monitoring cookie paste (JT-S1000)



Roll of transparent film (JD-HW08)

- Epoxy filled sensor housing provides IP67G rating for complete protection against water.
- 100G of shock resistance.
- M8 QD types are available for over all types.

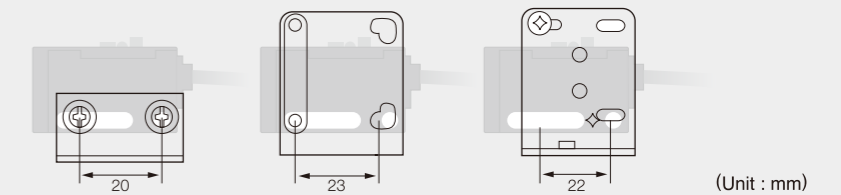
Features

Epoxy filled housing provides complete protection against water.



Slotted mounting holes for added flexibility. (Applicable for both M3 and M4)

The slotted mounting hole (25.4 mm pitch) allows the sensor to be used with various types of mounting brackets.



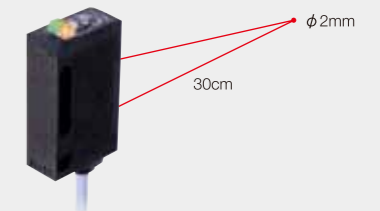
M8 QD for easy maintenance

The M8 QD connector types are small enough to be installed in areas where mounting space is limited.



Visible red spot

Visible red LED spot for easy alignment of the sensor. The projected spot is approx. 2 mm dia. at 30 cm distance from the sensor.



Diffuse reflective type

(Sensing distance : 80cm)
· JD-H(S)80N / P / CN / CP

Limited range (convergent) type

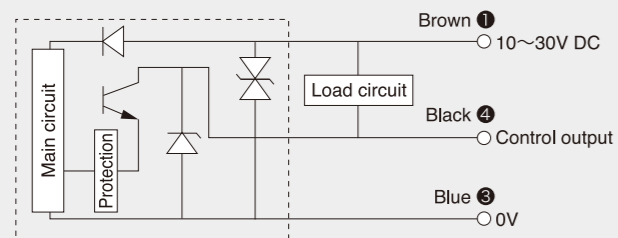
(Sensing distance : 2 - 5cm)
· JD-H(S)L03N / P / CN / CP

Wide angle (divergent) type

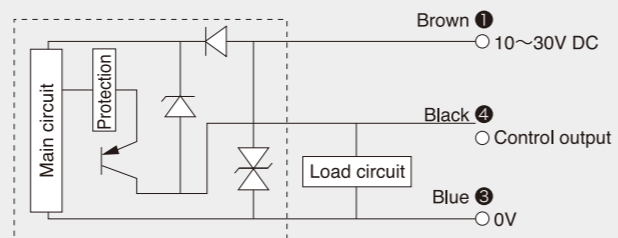
(Sensing distance : 8cm)
· JD-H(S)W08N / P / CN / CP

Circuit diagram

NPN output

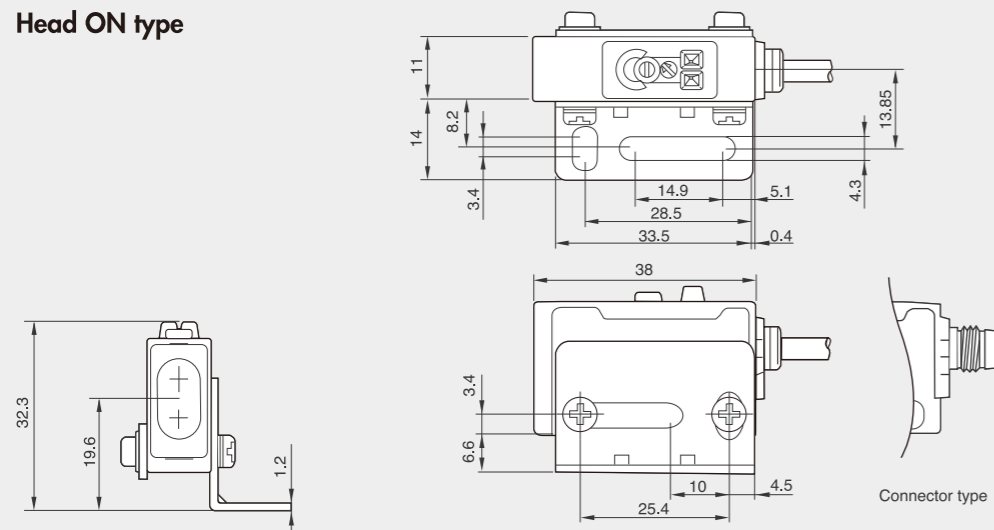


PNP output

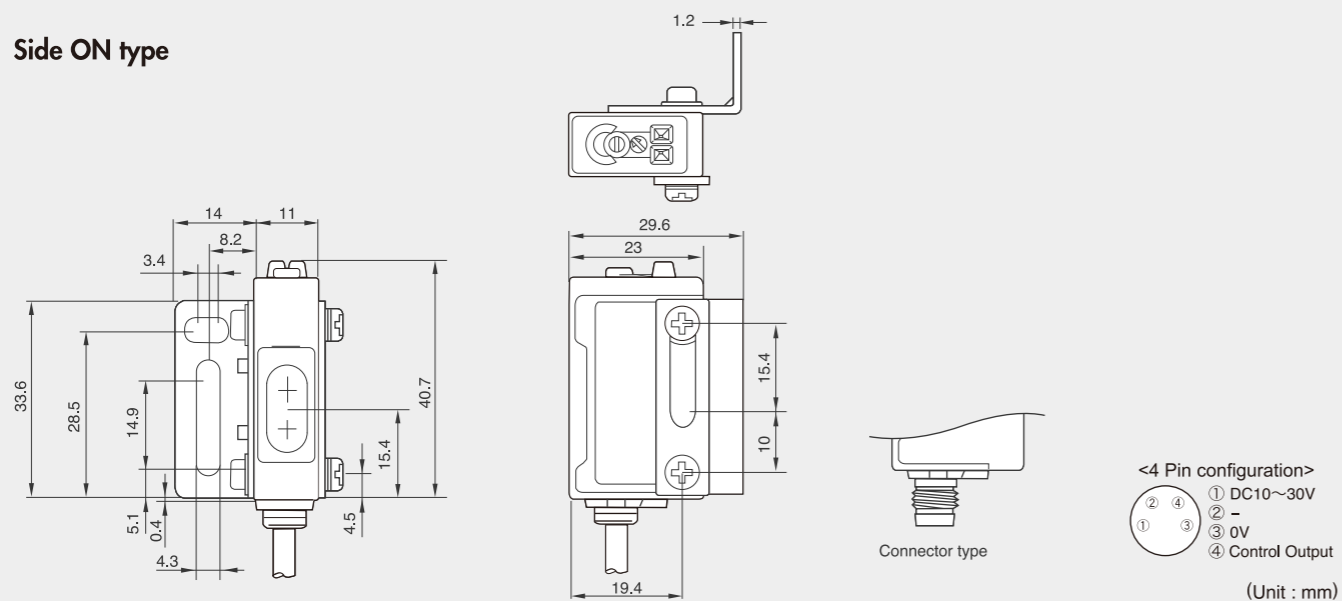


Dimensions

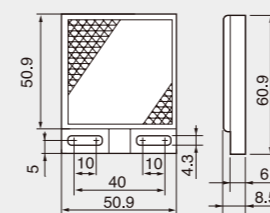
Head ON type



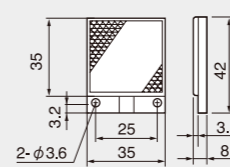
Side ON type



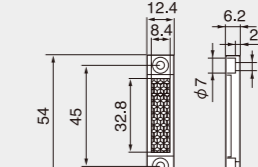
Standard reflector V-61



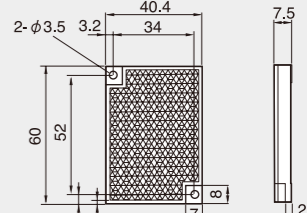
Small reflector V-42



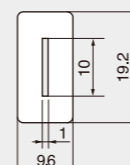
Tiny reflector P-45



Anti-cloud reflector V-60K



SJ-01 Slit mask for JT types



Specifications

Model	Thru-beam	Retro-Reflection	Diffuse Reflection	Limited range (convergent)	Wide angle (divergent)
Cable type	NPN JT-H(S)1000NR PNP JT-H(S)1000PR	JR-H(S)300N JR-H(S)300P	JD-H(S)R80N JD-H(S)R80P	JD-H(S)L03N JD-H(S)L03P	JD-H(S)W08N JD-H(S)W08P
Connector type	NPN JT-H(S)1000CNR PNP JT-H(S)1000CPR	JR-H(S)300CN JR-H(S)300CP	JD-H(S)R80CN JD-H(S)R80CP	JD-H(S)L03CN JD-H(S)L03CP	JD-H(S)W08CN JD-H(S)W08CP
Sensing distance	10m	3m	80cm	2-5cm	8cm
Response time	0.5msec Max				
Operating mode	Light on / Dark on selectable				
Hysteresis	NIL				
Light source	Red				
Control output	NPN or PNP Open collector, 100mA Max / 30V DC				
Supply voltage	DC 10 to 30V including 10% of ripple				
Conformity	JIS / C4525, CE, UL				
Power consumption	Emitter : 20mA, Receiver 15mA 20mA Max				
Sensitivity adjustment	2-turn Potentiometer				
Indicator	2 indicator, Output (Orange), Stable (Green)				
Protection category	IEC 144 IP67, JEM IP67g				
Shock resistance	100G (1,000m/S ²), X-Y-Z axis 3 times				
Environmental illuminance	Sunlight : 10,000 lux Max, Incandescent lamp : 3,000 lux Max.				
Material	PBT (Case), PC (Lens)				

Options

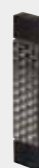
Standard reflector V-61



Small reflector V-42



Tiny reflector P-45



Anti-cloud reflector V-60K



JCN-S : M8 Straight type



JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

JCN-L : M8 L-shape type



JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

Protective mounting brackets (For Head-on types)

LJ-H01 : Protector



LJ-H02 : Protector



Protective mounting brackets (For Side-on types)

LJ-S01 : Protector



LJ-S02 : Protector



SJ-01 Slit mask for JT types



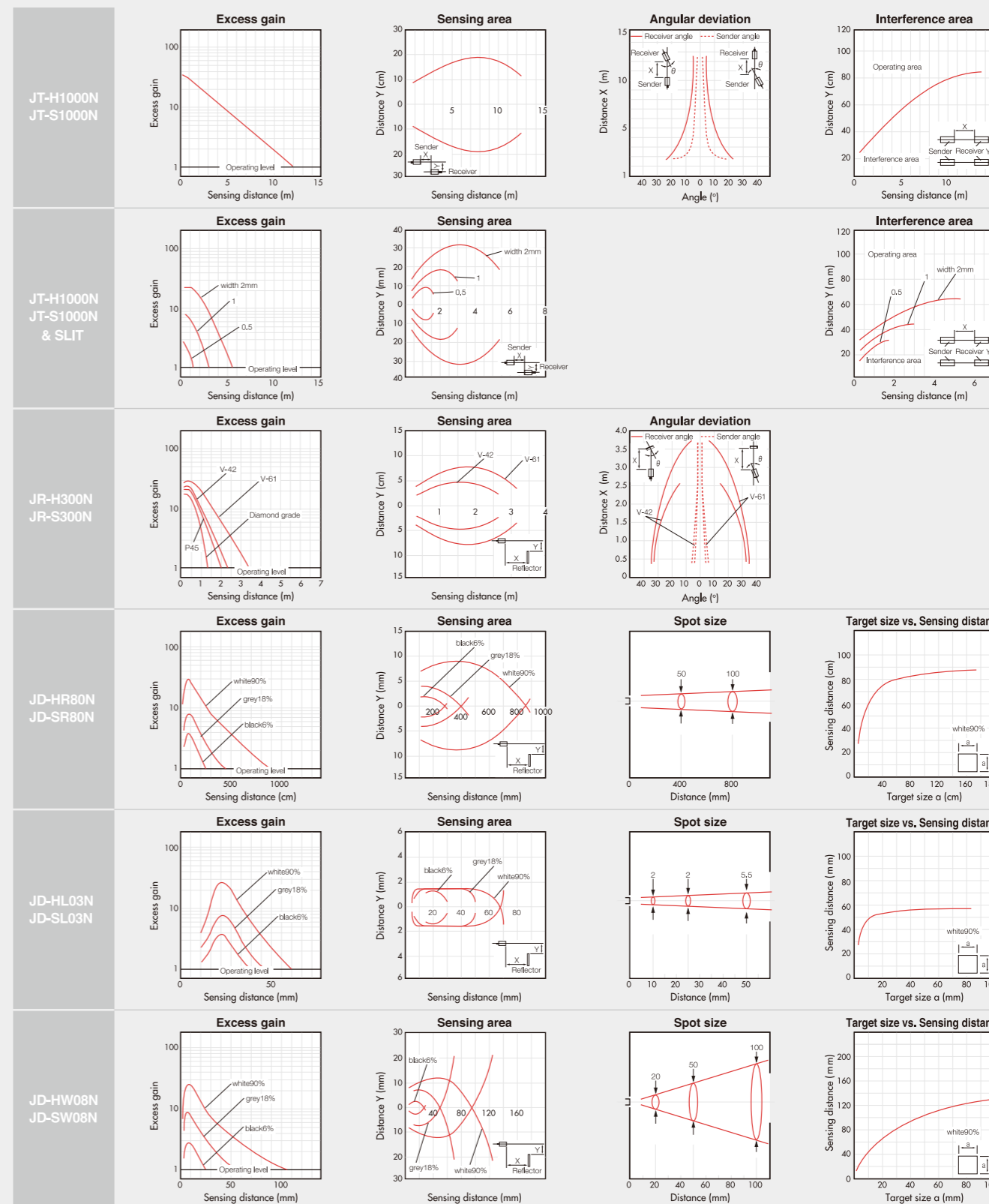
Slit size	Installation	Minimum	Maximum distance
1×10mm	Both of emitter / receiver	0.6mm	1m

Sensor stand PLN-1



Fixture of Reflector PLN-1M

Reference (typical)





Photoelectric Sensor J2 series

Narrow view type

(Sensing distance : 10cm)
· J2D-H(S)10N / P / CN / CP

Diffuse reflective type (IR LED)

(Sensing distance : 100cm)
· J2D-H(S)100N / P / CN / CP

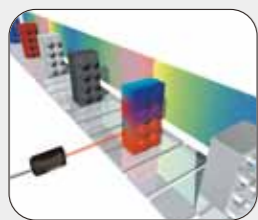
Diffuse reflective type (Red LED)

(Sensing distance : 70cm)
· J2D-H(S)70N / P / CN / CP

BGS type

(Sensing distance : 50 - 150mm)
· BGS-H(S)15N / P / CN / CP

Applications



BGS function for colorful object detection (BGS type)

- Epoxy filled sensor housing provides IP67 rating for complete protection against water and 100G of shock resistance.
- Narrow view optics project a 1.5 mm spot (Diffuse Reflective type J2D-10).
- 1 meter sensing distance - Diffuse Reflective type (J2D-100).

Features

Completely waterproof

Fully epoxy injected inside the body, (IP67)
Protection category 100G means tough and rigid mechanics.



Single Button Teaching

Built-in microcomputer offers a convenient means of setup and adjustment.
A Remote Teach function is available to adjust the sensitivity setting remotely.



Narrow View Diffuse.

The Narrow view diffuse model projects a 1.5 mm diameter spot at 100 mm distance. The sharp angle of view is ideal for detecting a target through a small opening.



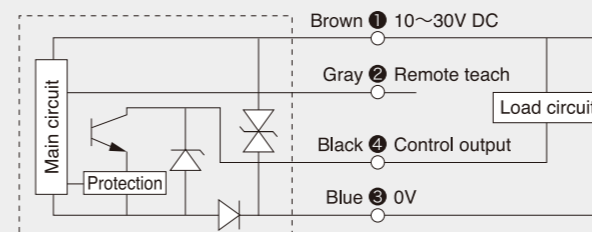
1 meter Diffuse.

1 meter sensing distance in diffuse reflection mode.

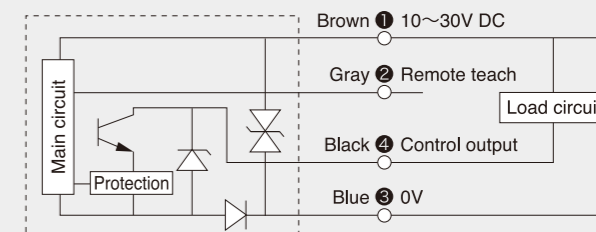


Circuit diagram

NPN output



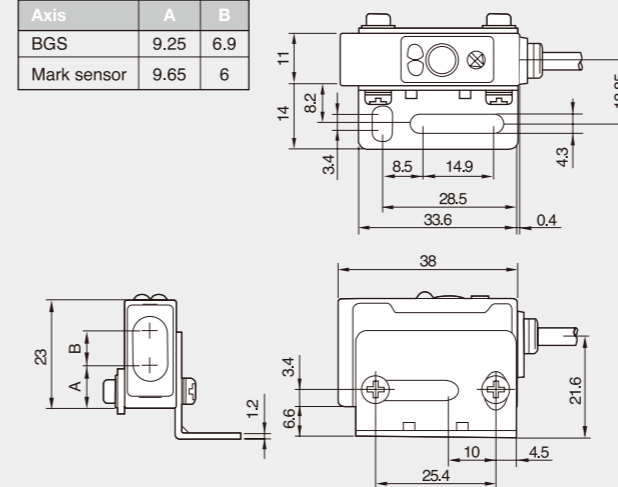
PNP output



Dimensions

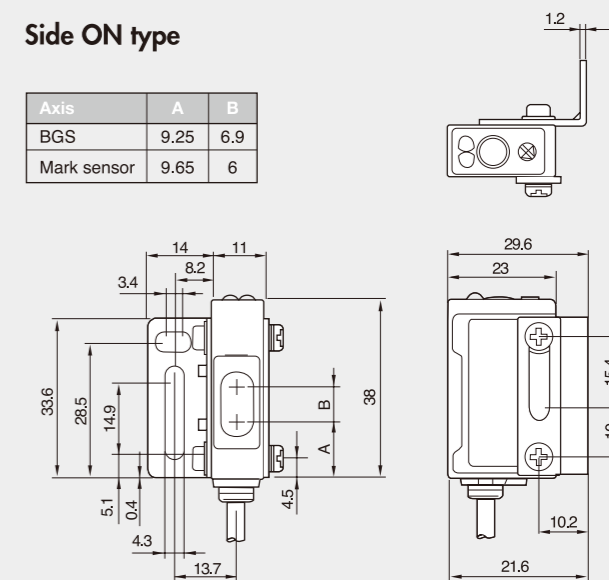
Head ON type

Axis	A	B
BGS	9.25	6.9
Mark sensor	9.65	6



Side ON type

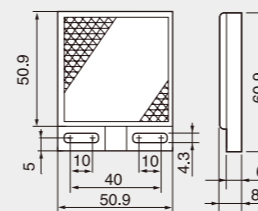
Axis	A	B
BGS	9.25	6.9
Mark sensor	9.65	6



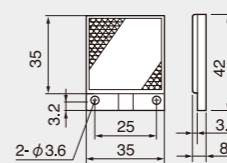
<4 Pin configuration>



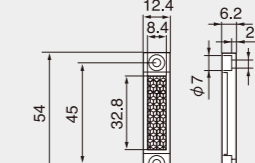
Standard reflector V-61



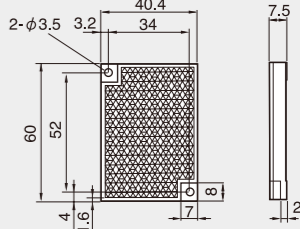
Small reflector V-42



Tiny reflector P-45



Anti-cloud reflector V-60K



(Unit : mm)

C

E

J

J2

J3

V

V2

V3

V4

SR-Q

S

Z

BGS-Z

K

FGS-D

BGS-D

BGS-2S

Y

DM-18T

Accessory



Mark sensor type
(Sensing distance : 10±2m)
· J3M-GH(S)01N / P / CN / CP

Retro-reflective Narrow view type
(Sensing distance : 0.05 - 1m)
· J3R-H(S)100N / P / CN / CP

Next page →

Specifications

Model		Narrow View	Diffuse Reflective (IR)	Diffuse Reflective (Red)	BGS
Cable type	NPN	J2D-H(S)10N	J2D-H(S)100N	J2D-H(S)70N	BGS-H(S)15N
	PNP	J2D-H(S)10P	J2D-H(S)100P	J2D-H(S)70P	BGS-H(S)15P
Connector type	NPN	J2D-H(S)10CN	J2D-H(S)100CN	J2D-H(S)70CN	BGS-H(S)15CN
	PNP	J2D-H(S)10CP	J2D-H(S)100CP	J2D-H(S)70CP	BGS-H(S)15CP
(Remark)	*H = Head-on, S = Side-on				
Sensing distance		100mm	1000mm	700mm	50-150mm
Power consumption		10mA Max			45mA Max
Response time		0.5m sec			2.5 msec Max
Hysteresis		15%			8% @ 100mm
Spot size		φ 1.5mm@100mm	φ 85mm@1000mm	φ 50mm@600mm	φ 10mm@150mm
Light source		Red	Infrared	Red	
Supply voltage		DC 10 to 30V including 10% of ripple			
Control output		NPN or PNP Open collector, 100mA Max / 30V DC			
Sensitivity adjustment		Teach-in (Available Remote Teach-in)			
Shock resistance		100G (1,000m/S ²), X-Y-Z axis 3 times			
Remarks		Connector is M8, 3 and 4 pin connectors are available			
Operating mode		Light on / Dark on selectable			
Operating temp		-25 up to 55 °C			
Operating humidity		35 up to 95% RH			
Storage temp / humidity		-40 up to 70 °C, 35 - 95% RH			
Environmental illuminance		Sunlight : 10,000 lux Max, Incandescent lamp : 3,000 lux Max.			
Insulation resistance		Min. 20 M Ohm / DC500V			
Conformity (JIS C4525)		JIS, CE, CRU			
Feilen test		Level 3			
VDE protection		Class 3			
Vibration resistance		10 to 55 hz amplitude 1.5mm, X-Y-Z for 2 hours			
Protection category		IP67			
Material		Case : PBT, Lens : PMMA			

- **J3M Mark sensor with Pushbutton Teach.**
- **Narrow view optics project a 3.0 mm spot (Retro-reflective type J3R-100).**
- **1.5 mm projected spot for BGS types.**
- **Epoxy filled sensor housing provides protection against vibration.**

Features (J3 Common)

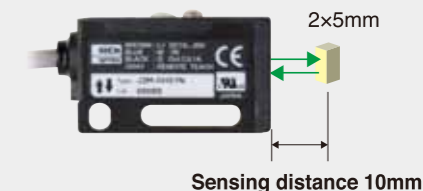
IP67

In addition to vibration resistance, the epoxy filled housing results in an IP67 rating.



Fast Response 200 micro sec, 10±2mm sensing distance (Mark sensor J3M type)

A latest Green LED with physical composition of GlanN2. It's best for mark sensing.



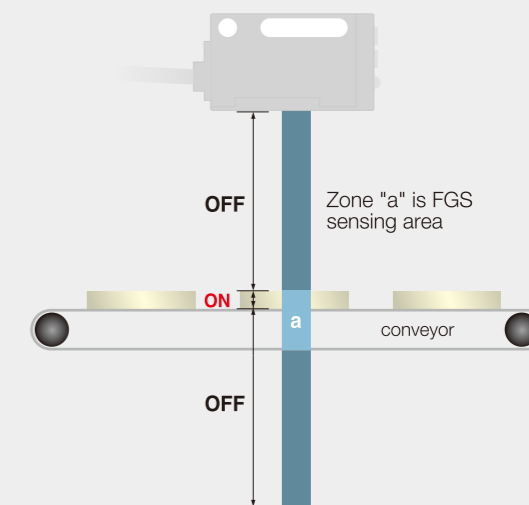
Completely waterproof

An IP67 rating is guaranteed by filling the sensor body with epoxy. The 100G shock resistance rating protects the sensor against mechanical vibration.



BGS-S/H15 : Built-in FGS function

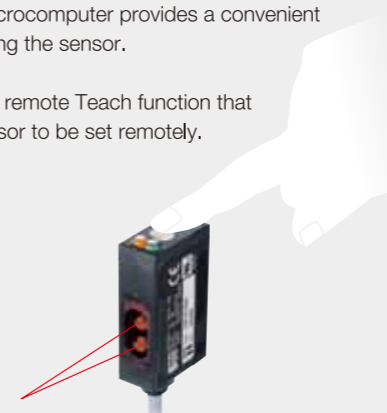
The BGS-S15 and BGS-H15 sensors are able to operate as FGS (foreground suppression) sensors. The FGS function senses the surface of the conveyor and uses this as a reflector, the sensor will detect thin and/or flat objects positioned on the conveyor. A standard diffuse reflective sensor could be used in this application but adjusting the sensitivity is sometimes difficult, the FGS function is easily adjusted and will operate in a manner similar to a retro-reflective sensor without the reflector.



One-push Teaching.

The built-in microcomputer provides a convenient means of setting the sensor.

There is also a remote Teach function that allows the sensor to be set remotely.



Options

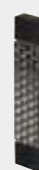
Standard reflector V-61



Small reflector V-42



Tiny reflector P-45



Anti-cloud reflector V-60K



JCN-S : M8 Straight type



JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

JCN-L : M8 L-shape type



JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

Sensor stand PLN-1



Fixture of Reflector PLN-1M

Protective mounting brackets (For Head-on types)

LJ-H01



LJ-H02



Protective mounting brackets (For Side-on types)

LJ-S01

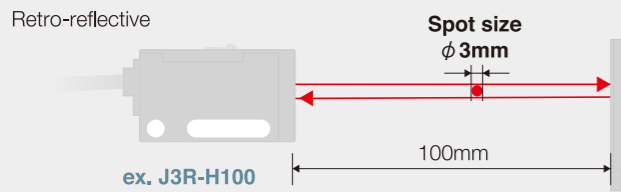


LJ-S02



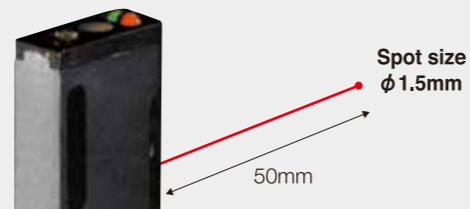
BGS type (H) = Head-on (S) = Side on
(Sensing distance : 15 - 50mm)
· BGS-3JH(S)05N / P / CN / CP

Ideal for detection of small objects

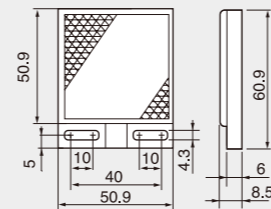


ϕ 1.5mm of small spot size (BGS-3JH05)

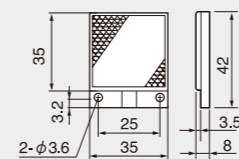
Small spot in a BGS sensing system.



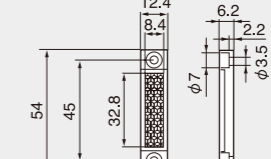
Standard reflector V-61



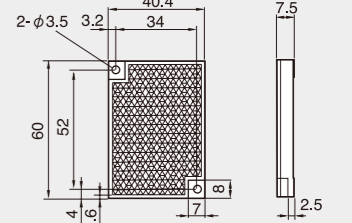
Small reflector V-42



Tiny reflector P-45

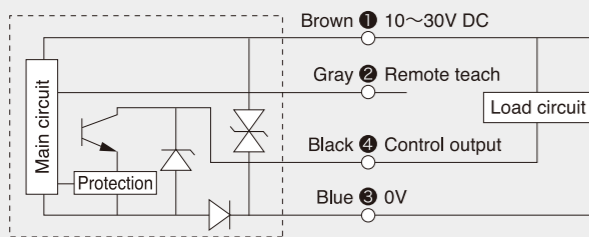


Anti-cloud reflector V-60K

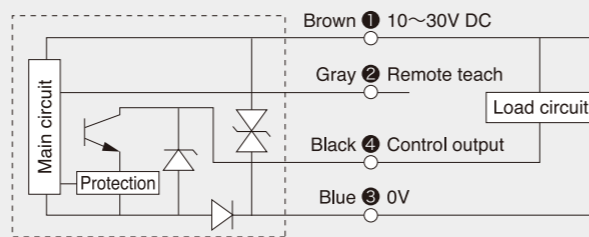


Circuit diagram

NPN output



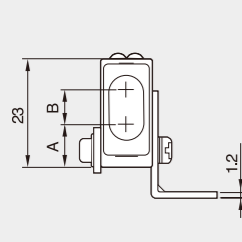
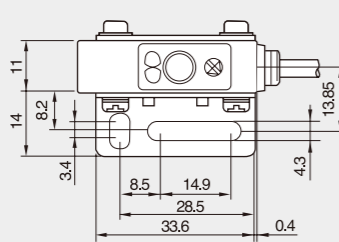
PNP output



Dimensions

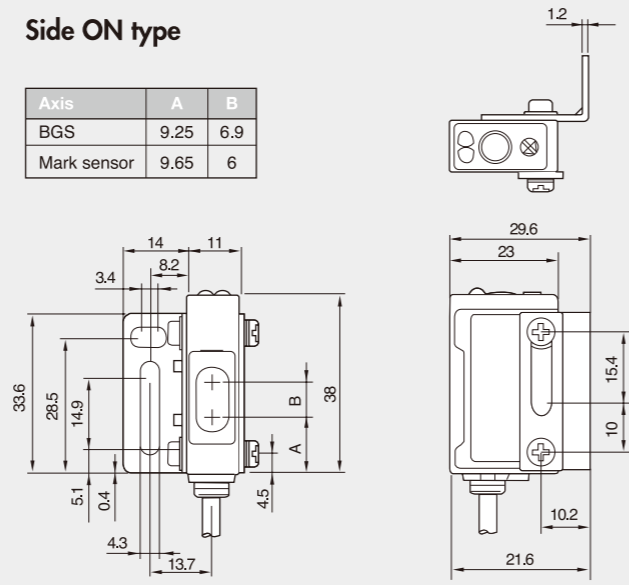
Head ON type

Axis	A	B
BGS	9.25	6.9
Mark sensor	9.65	6



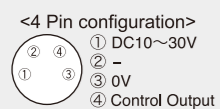
Side ON type

Axis	A	B
BGS	9.25	6.9
Mark sensor	9.65	6



Specifications

Model	Mark Sensor	Retro-reflective Narrow View	BGS
Cable type	NPN	J3M-GH(S)01N	J3R-GH(S)100N
	PNP	J3M-GH(S)01P	J3R-GH(S)100P
Connector type	NPN	J3M-GH(S)01CN	J3R-GH(S)100CN
	PNP	J3M-GH(S)01CP	J3R-GH(S)100CP
(Remark) *H = Head-on, S = Side-on			
Sensing distance	10 +/- 2m	0.05 - 1m	15 - 50mm/18%
Power consumption	40mA Max		
Response time	0.2m sec		0.7 msec
Hysteresis	N/A		5%
Min detectable object	Appr 2 x 5mm @ 10mm	1mm @ 100mm	0.5mm round@150mm
Light source	Green	Red LED with special focusing lens	Red
Off delay	40 msec fixed		
Supply voltage	DC 10 to 30V including 10% of ripple		
Control output	NPN or PNP Open collector, 100mA Max / 30V DC		
Sensitivity adjustment	Teach-in		
Remote teach-in	Available		
Shock resistance	100G (1,000m/S ²), X-Y-Z axis 3 times		
Remarks	Light on / Dark on selectable		
Operating temp	-25 up to 55 °C		
Operating humidity	35 up to 95% RH		
Storage conditions	-40 up to 70 °C, 35 - 95% RH		
Environmental illuminance	Sunlight : 10,000lux Max, Incandescent lamp : 3,000 lux Max.		
Insulation resistance	Min. 20 M Ohm / DC500V		
Conformity	JIS, CE, C-UL		
(JIS C4525)	1μsec, 300V		
Feilen test	Level 3		
VDE protection	Class 3		
Vibration resistance	10 to 55 hz amplitude 1.5mm, X-Y-Z for 2 hours		
Protection category	IP67		
Material	Case : PBT, Lens : PMMA		





Thru-beam type

(Sensing distance : 40m)
Relay output type · VT-4000 / T
(Sensing distance : 30m)
Transistor output type · VT-3000N / P / CN / CP

Retro-reflective type

(Sensing distance : 10m)
Relay output type · VR-1000 / T
(Sensing distance : 8m)
Transistor output type · VR-800N / P / CN / CP

Next page →

Options

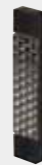
Standard reflector V-61



Small reflector V-42



Tiny reflector P-45



Anti-cloud reflector V-60K



JCN-S : M8 Straight type



JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

JCN-L : M8 L-shape type



JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

Protective mounting brackets (For Head-on types)

LJ-H01 : Protector



LJ-H02 : Protector



Protective mounting brackets (For Side-on types)

LJ-S01 : Protector



LJ-S02 : Protector



Sensor stand
PLN-1



Fixture of Reflector
PLN-1M

Applications



Rubber / plastic industry



Transportation industry



Material handling

- **Universal voltage photoelectric sensor 12~240 VDC / 24~240 VAC.**
- **M12 QD types are available.**
- **Relay contact (AC/DC models) and Transistor output (DC models).**
- **Rugged duty sensor housing.**
- **BGS-V2000, long sensing distance (2m) with BGS operation.**

Features

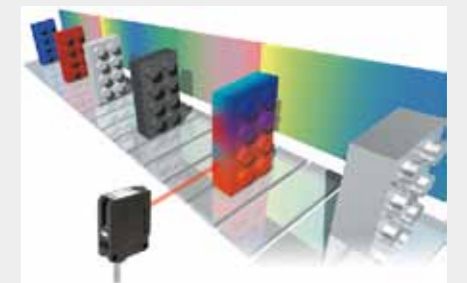
High power light source

The strong LED light source assures stable sensing even in misty or dirty conditions.



Long sensing BGS-V2000 (2m) BGS type

BGS-V2000 , 2m sensing BGS sensor.



Timer Function

Adjustable ON delay, OFF delay and ON+OFF delay time by individual delay trimmer. From 0.1 to 10 sec.

ON delay volume OFF delay volume



Applicable for use world-wide

24 to 240V AC
12 to 240V DC.



C

E

J

J2

J3

V

V2

V3

V4

SR-Q

S

Z

BGS-Z

K

FGS-D

BGS-D

BGS-2S

Y

DM-18T

Accessory

C

E

J

J2

J3

V

V2

V3

V4

SR-Q

S

Z

BGS-Z

K

FGS-D

BGS-D

BGS-2S

Y

DM-18T

Accessory

Diffuse reflective type

(Sensing distance : 1.3m)
Relay output type · VD-130 / T
 (Sensing distance : 1m)
Transistor output type · VD-100N / P / CN / CP

Diffuse reflective type

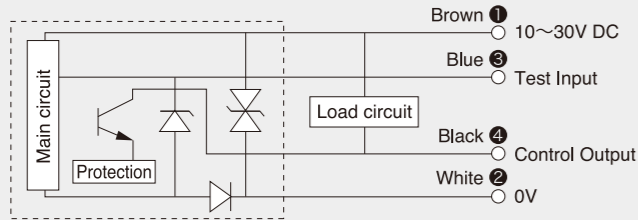
(Sensing distance : 3m)
Relay output type · VD-300 / T
 (Sensing distance : 2.5m)
Transistor output type · VD-250N / P / CN / CP

BGS type

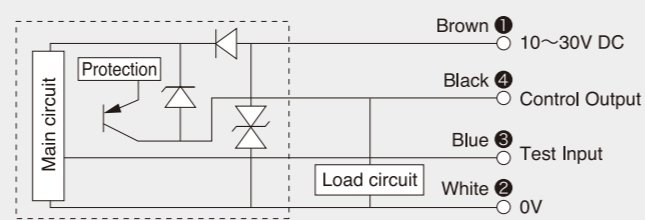
(Sensing distance : 2m)
Relay output type · BGS-V2000 / T
Transistor output type · BGS-V2000N / P / CN / CP

Circuit diagram

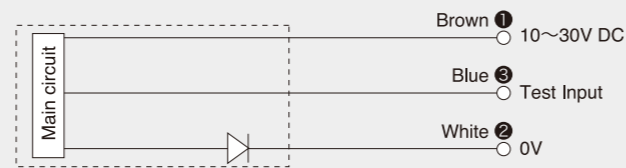
NPN output



PNP output

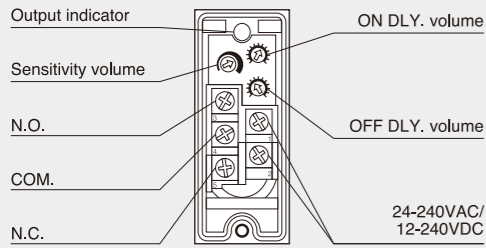


Emitter

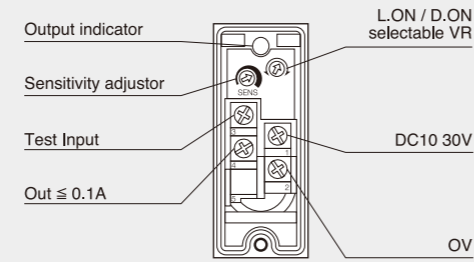


Connections

Relay type

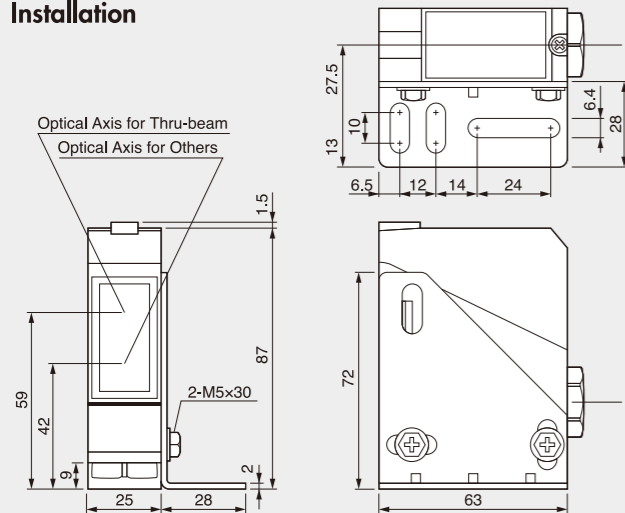


NPN / PNP type

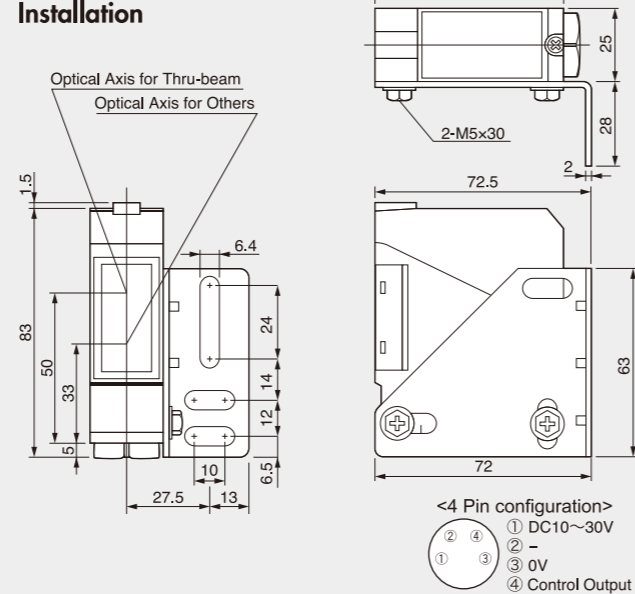


Dimensions

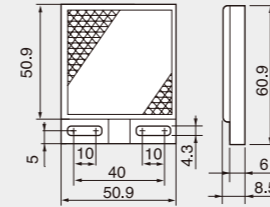
Horizontal Installation



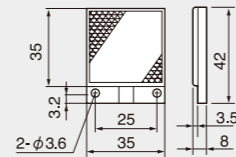
Vertical Installation



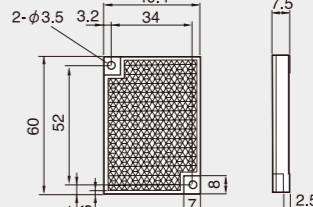
Standard reflector V-61



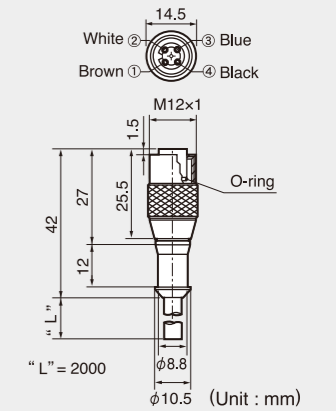
Small reflector V-42



Anti-cloud reflector V-60K



M12 connector cable 6009 382



Specifications

Model	Thru-beam	Retro-Reflection	Diffused-Reflection Red LED	Diffused-Reflection IR LED	BGS type
Relay output type	VT-4000	VR-1000	VD-130	VD-300	BGS-V2000
	VT-4000T	VR-1000T	VD-130T	VD-300T	BGS-V2000T
Transistor output type	VT-3000N / 3000P	VR-800N / 800P	VD-100N / 100P	VD-250N / 250P	BGS-V2000N / 2000CN
	VT-3000CN / 3000CP	VR-800CN / 800CP	VD-100CN / 100CP	VD-250CN / 250CP	BGS-V2000P / 2000CP
Sensing distance	Relay type 40 meter	Relay type 8 meter	Relay type 1.3 meter	Relay type 3 meter	Relay type 2 meter
Response time	Relay type 20msec	Relay type 1.5msec	Relay type 1 meter	Relay type 2.5 meter	Relay type 2 meter
Operating mode	Relay type = Light On fixed, NPN / PNP type = Light On / Dark On switchover				
Hysteresis	NIL			20% Max	15% Max
Light source	Red			Infrared	
Control output	NO / NC AV240V / DC30V,3A				Relay 1C, AC250V, DC30V, 3A
Supply voltage	NPN or PNP Open collector, 100mA Max / 30V DC AC24-240V, DC12-240V +/-10% ripple DC10-30V incl. 10% ripple				
Conformity	JIS / C4525, CE, UL				
Power consumption	8.5VA	5VA		5mA	
Cable connection	Terminal chamber, applicable cable φ6 to φ10				
Test input	Available in Transistor output types				
Operating temp	-25~+55°C				
Operating humidity	35~85% RH				
Sensitivity adjustment	Single turn trimmer				TEACH-IN
Protection	IEC 144, IP67				
Shock resistance	50G, XYZ 3-ways				
Materials	Glassfiber reinforced ABS (Case), PMMA (Lens)				ABS (Case), PC (Lens), PMMA (Cover)

Options

Standard reflector V-61



Small reflector V-42



Anti-cloud reflector V-60K



Connector cable 6009 382





Photoelectric Sensor V2 series

Thru-beam type

(Sensing distance : 20m)
Relay output type · V2T-2000
Transistor output type · V2T-2000DN / DP
M12 QD Transistor type · V2T-2000CDN / CDP

Retro-reflective type with polarizing filter

(Sensing distance : 8m)
Relay output type · V2R-800
Transistor output type · V2R-800DN / DP
M12 QD Transistor type · V2R-800CDN / CDP

BGS type

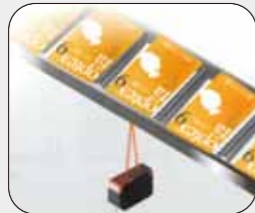
(Sensing distance : 80cm) (Sensing distance : 50cm) (Sensing distance : 30cm)
 ·BGS-V80 / N / P / CN / CP ·BGS-V50 / N / P / CN / CP ·BGS-V30 / N / P / CN / CP

- **BGS series with a rugged duty housing.**
- **Up to 80 cm sensing distance (BGS-V80).**
- **The large lenses assure stable sensing.**
- **IP67, QD types are available.**

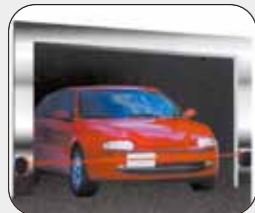
Applications



Gate control
(V2T-2000)



Magazines on roller conveyor
(BGS-V50)



Parking control
(V2T-2000)



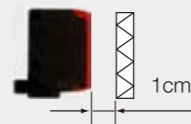
Tire counting
(V2R-800)

Features

A large projecting and receiving lens results in a strong projected beam. Ideal for use in tough conditions.

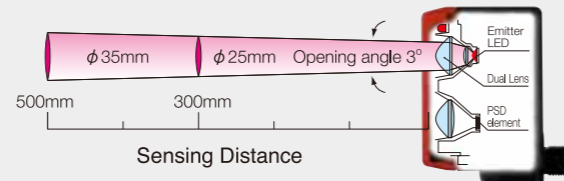


Only 1cm of dead area



Large projecting and receiving lens assures stable sensing even in misty or dusty conditions.

The sensor uses a condenser lens to project a beam that is only 3 degrees in diameter. This makes it possible to detect small objects at a long distance.



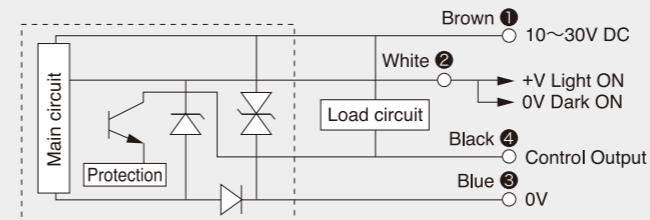
Connector can be rotated for added flexibility when mounting.
(DC Power type)

The connector rotates 90 degrees for added flexibility when mounting.
 IP67 is maintained even with the connector.

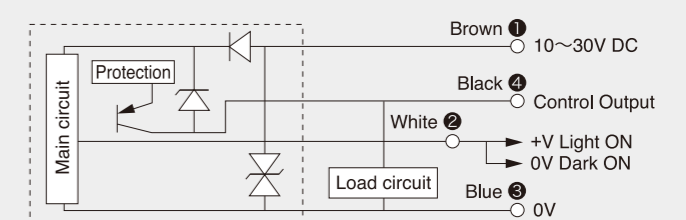


Circuit diagram

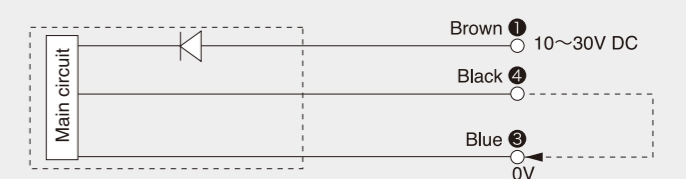
NPN output



PNP output

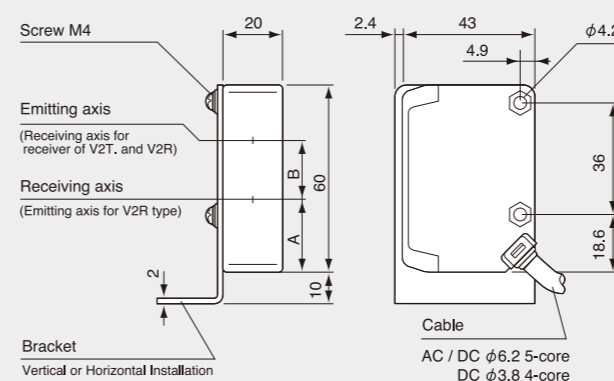


Emitter



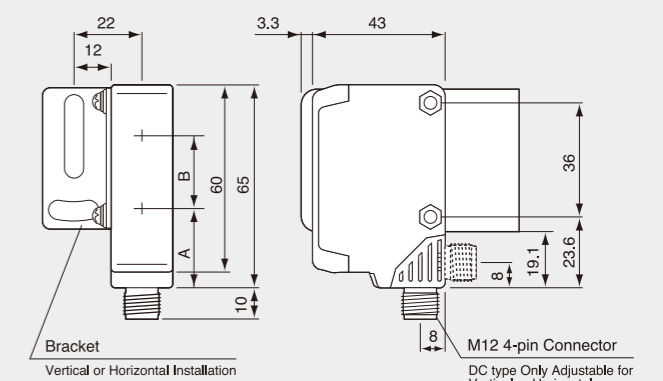
Dimensions

Cable type



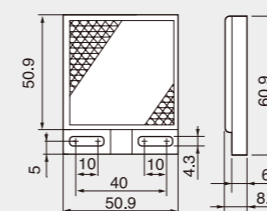
	V2T-2000	V2T-800	BGS-V50	BGS-V30
A	44	19	18	18.7
B	-	17.4	26	25.3

Connector type

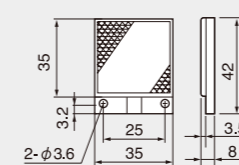


	V2T-2000	V2T-800	BGS-V50	BGS-V30
A	44	19	18	18.7
B	-	17.4	26	25.3

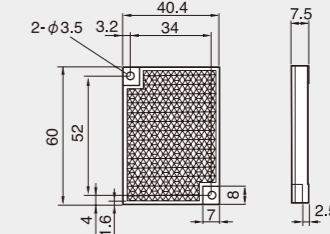
Standard reflector V-61



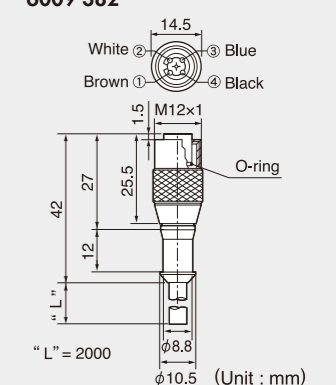
Small reflector V-42



Anti-cloud reflector V-60K



M12 connector cable 6009 382



Specifications

Model	Relay Output Type					Transistor Output Type					
	Thru-beam	Retro-reflective	BGS			Thru-beam	Retro-reflective	BGS			
Cable type	NPN	V2T-2000	V2R-800	BGS-V80	BGS-V50	BGS-V30	V2T-2000DN	V2R-800DN	BGS-V80N	BGS-V50N	BGS-V30N
	PNP	Relay contact					V2T-2000DP	V2R-800DP	BGS-V80P	BGS-V50P	BGS-V30P
Connector type	NPN	—	—	—	—	—	V2T-2000CDN	V2R-800CDN	BGS-V80CN	BGS-V50CN	BGS-V30CN
	PNP	—	—	—	—	—	V2T-2000CDP	V2R-800CDP	BGS-V80CP	BGS-V50CP	BGS-V30CP
Sensing distance		20 m	8 m	80 cm	50 cm	30 cm	20 m	8 m	80 cm	50 cm	30 cm
Supply voltage		24-240V AC, or 12-240V DC +/- 10%					10-30V DC including 10% of ripple				
Indicator		Single LED									
Power consumption		2VA Max					35mA Max		25mA Max		
Sensitivity adjustment		2-turn potentiometer									
Response time		1.5msec Max					1msec	0.7msec	2msec		
Control output		Relay output 1C, 250V AC, 0.3A / 30V DC 2A					NPN or PNP open collector (total 100mA 30V DC)				
Hysteresis		NIL			5% Max		NIL				
Operating mode		—					Light ON / Dark ON selectable				
Light source		Red LED									
Noise resistance		IEC 1000-4-2, Level 4, IEC 1000-4-3, Level 3, C4525 1000V JIS									
Operating temp / humidity		-25 to +55°C / 35 to 85%/RH									
Environmental illuminance		Sun Light:10,000 lux max. Incandescent lamp:3,000 lux max.									
Shock resistance		50G (500m/s ²) X,Y,Z, axis 3 times									
Protection category		IP67									
Housing material		Housing: ABS Glassfiber reinforced. Front lens: PC (PMMA for retro-reflection)									

Options

Standard reflector V-61



Small reflector V-42



Anti-cloud reflector V-60K

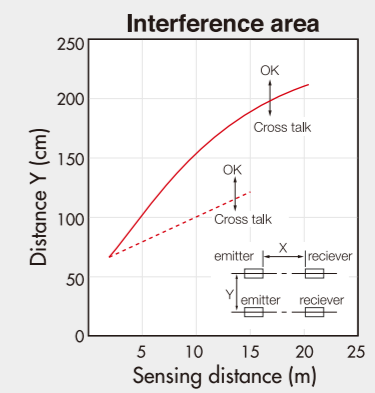
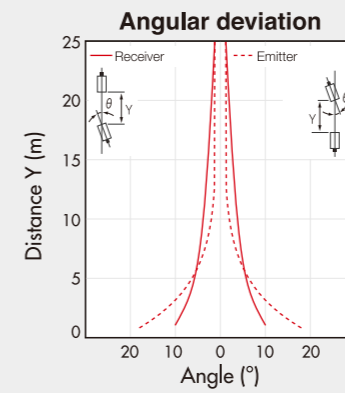
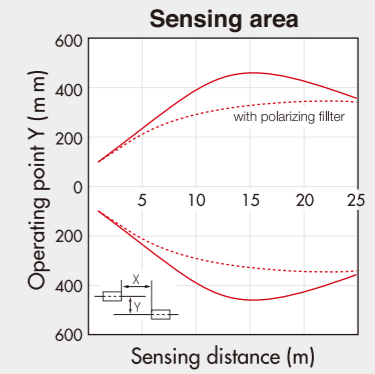
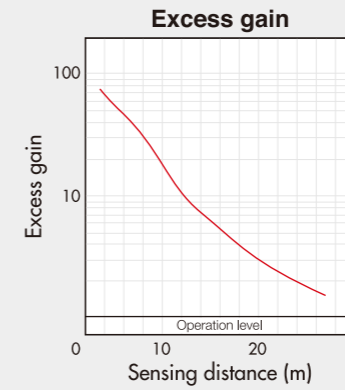


Connector cable 6009 382

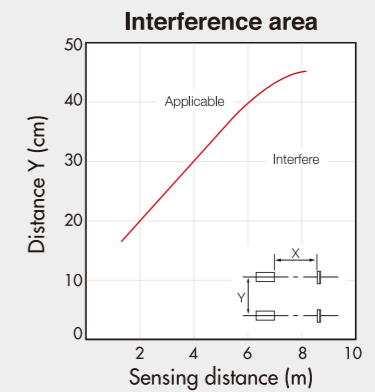
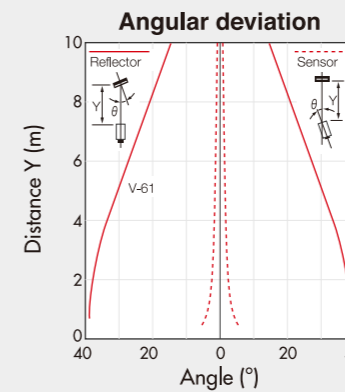
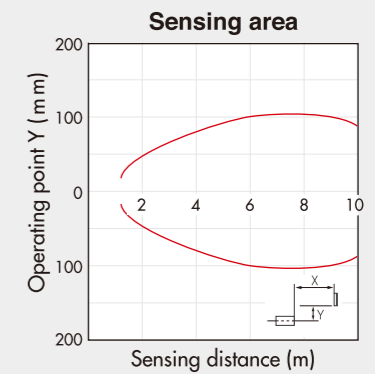
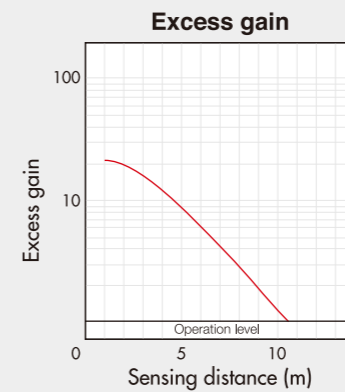


Reference (typical)

V2T-2000
V2T-2000DN



V2R-800
V2R-800DN



- C
- E
- J
- J2
- J3
- V
- V2
- V3
- V4
- SR-Q
- S
- Z
- BGS-Z
- K
- FGS-D
- BGS-D
- BGS-2S
- Y
- DM-18T
- Accessory

- C
- E
- J
- J2
- J3
- V
- V2
- V3
- V4
- SR-Q
- S
- Z
- BGS-Z
- K
- FGS-D
- BGS-D
- BGS-2S
- Y
- DM-18T
- Accessory



Photoelectric Sensor V3 / V4 series

V3 series Thru-beam type

(Sensing distance : 40m)
Relay output type · V3T-4000
Transistor output type · V3T-4000N / P
M12 QD Transistor type · V3T-4000CN / CP

Retro-reflective type

(Sensing distance : 0.01 - 10m)
Relay output type · V3R-1000
Transistor output type · V3R-1000N / P
M12 QD Transistor type · V3R-1000CN / CP

Diffuse reflective type

(Sensing distance : 1.3m)
Relay output type · V3D-130
Transistor output type · V3D-130N / P
M12 QD Transistor type · V3D-130CN / CP

V4 series Thru-beam type

(Sensing distance : 40m)
Relay output type · V4T-4000
Transistor output type · V4T-4000N / P

Retro-reflective type

(Sensing distance : 0.01 - 10m)
Relay output type · V4R-1000
Transistor output type · V4R-1000N / P

Diffuse reflective type

(Sensing distance : 1.3m)
Relay output type · V4D-130
Transistor output type · V4D-130N / P

Applications



Access control

- **Easy and quick disconnection for quick maintenance. Simply remove the main body from the base to replace the sensor.**
- **Long sensing distance - 40 meters thru-beam.**
- **Terminal connection (AC types - V4 series).**

Features

Leave the base and cable in place, change the amplifier only (V3 and V4 series).

Easy replacement

New style of QD!
 Simply replace the main body leaving the base and cable in place.



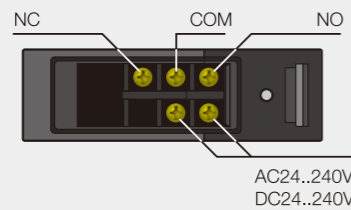
Replace unit UR-34 (Retro-type)



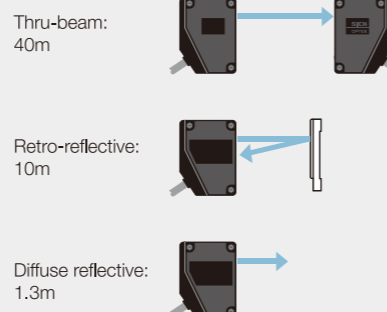
Strong light source!
 Ideal for dusty/dirty conditions.



Terminal layout for easy connection (V4 series).

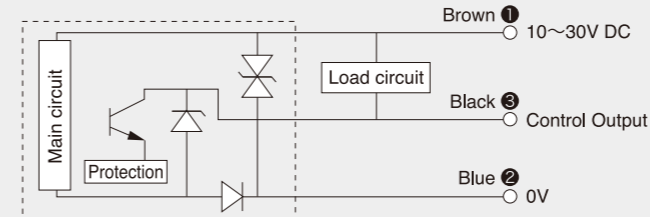


Long Scanning Range

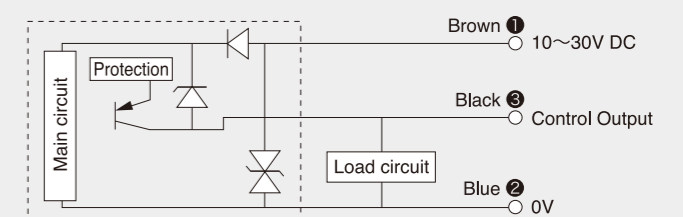


Circuit diagram (Transistor Output type)

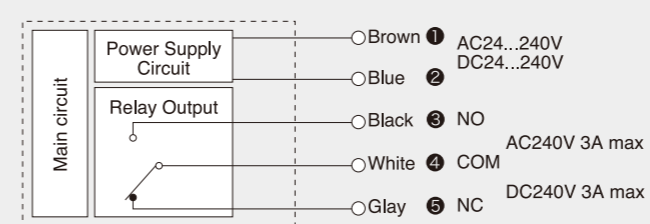
NPN output



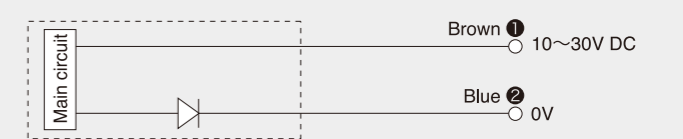
PNP output



AC/DC type

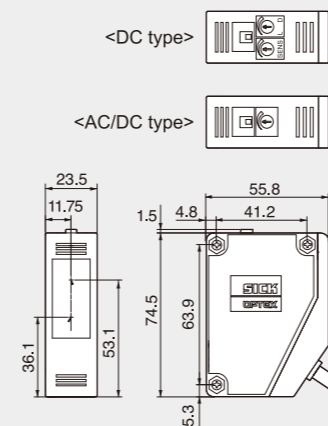


Emitter

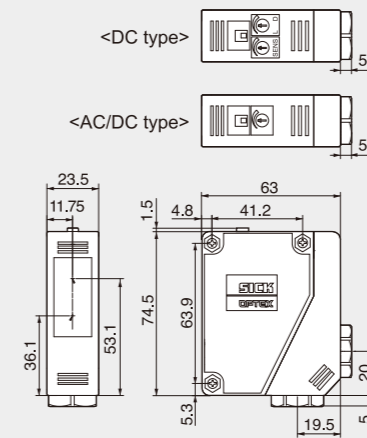


Dimensions

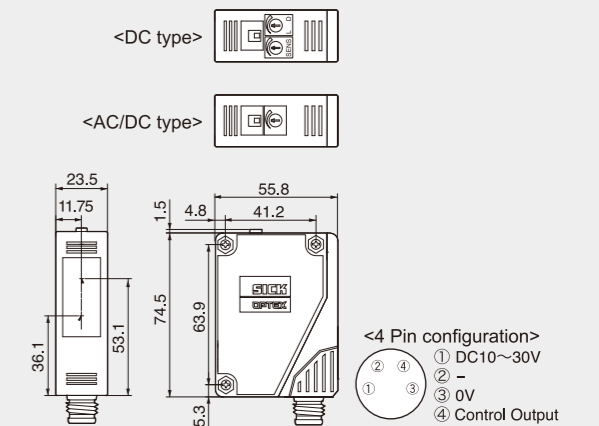
Cable type



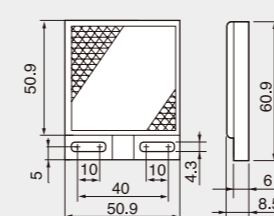
Terminal chamber type



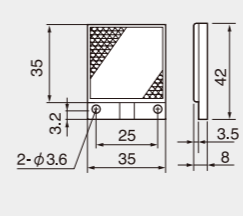
M12 Connector type



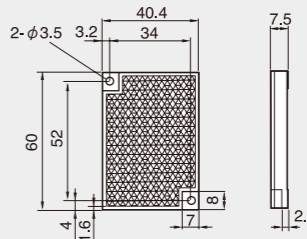
Standard reflector V-61



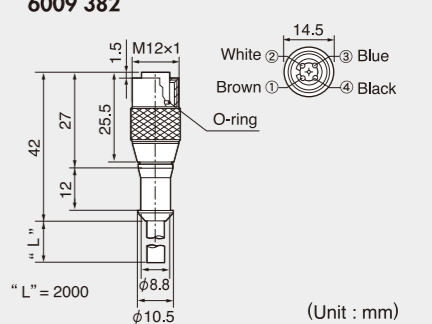
Small reflector V-42



Anti-cloud reflector V-60K



M12 connector cable 6009 382

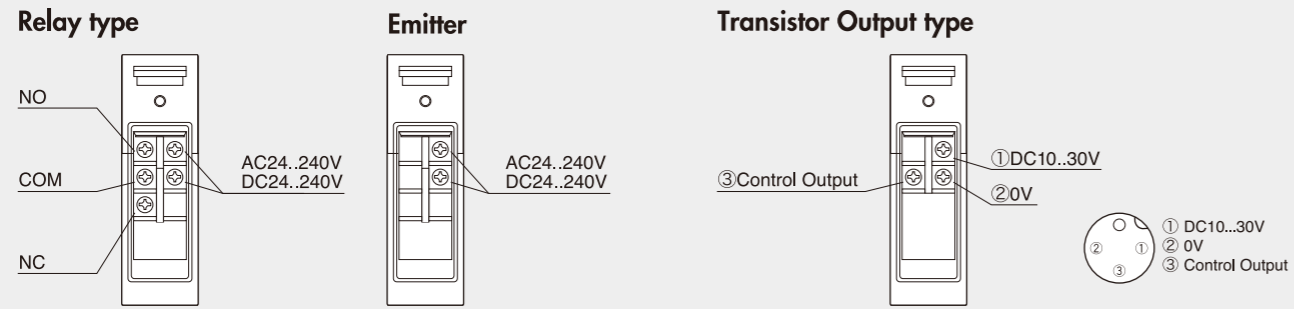




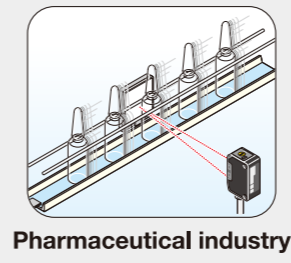
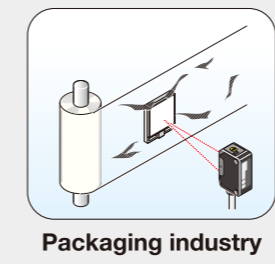
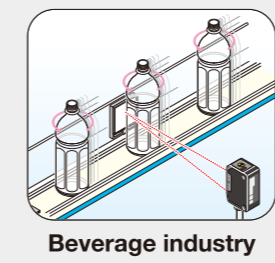
Cable Type
(Sensing distance : 500mm)
· SR-Q50NW NPN type
· SR-Q50PW PNP type

M8 Connector Type
(Sensing distance : 500mm)
· SR-Q50CNW NPN type
· SR-Q50CPW PNP type

Connections



Applications



- Ideal for sensing transparent objects.
- 100G of shock resistance rating.
- V-45 small reflector, good for space saving.
- M8 QD types are available.

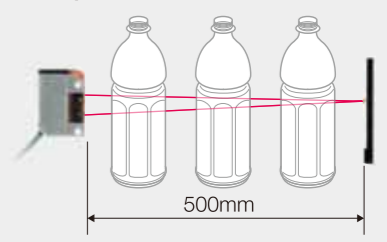
Specifications

Model	Relay output type			Transistor output type		
	Thru-beam	Retro-reflective	Diffuse reflective	Thru-beam	Retro-reflective	Diffuse reflective
V3 series (cable/QD type)	V3T-4000	V3R-1000	V3D-130	V3T-4000N, P, CN, CP	V3R-1000N, P, CN, CP	V3D-130N, P, CN, CP
V4 series : (terminal type)	V4T-4000	V4R-1000	V4D-130	V4T-4000N, P	V4R-1000N, P	V4D-130N, P
Maintenance unit (common to V3/V4)	US-34 (emitter)	UR-34	UD-34	US-34D (emitter)	UR-34N or 34P	UD-34N or 34P
Sensing distance	40m	0.01 - 10m	1.3m	40m	0.01 - 10m	1.3m
Response time	20msec			0.5 msec		
Operating mode	Light ON			Light ON / Dark ON switchover		
Hysteresis	NIL			NIL		
Light source	Red			Red		
Indicator	Single LED (Orange) as output indicator			Single LED (Orange) as output indicator		
Control output	Relay NO/NC 240V AC / 30 VDC, 3A			NPN or PNP		
Supply voltage	AC/DC 24-240V, +/- 10% ripple			10 - 30V DC including +/- 10% ripple		
Conformity	JIS/C4525, CE, UL			JIS/C4525, CE, UL		
Power consumption	9.5VA	5VA		40mA without load		
Connection : V3 series	2 meter cable			2 meter cable, or M12 QD		
V4 series	Terminal chamber, applicable cable φ6 to φ10			Terminal chamber, applicable cable φ6 to φ10		
Operating temp	-25 to 55 °C					
Operating humidity	35 to 85 % RH					
Storage temp	-40 to 70 C / 35 - 95% RH					
Sensitivity adjustment	Single turn pot.					
Protection category	IEC 144, IP66					
Shock resistance	50G , XYZ 3-ways					
Materials	Glassfiber reinforced ABS (Case), PMMA (Lens)					

Features

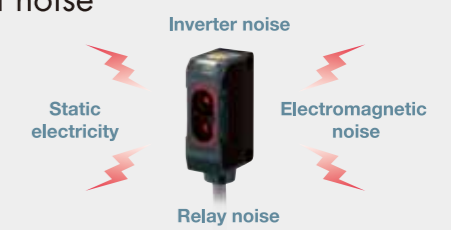
Stable detection of transparent objects.

PET bottles with any design / configuration are easily detected. The material of the bottle does not matter. CRT and TFT can be detected also.



High durability to ambient noise

All sensors are designed to be resistant to electrical noise from relay contacts, inverters, electromagnetic fields, static, etc. The In-house testing (Failen Test) exceeds the IEC standard.



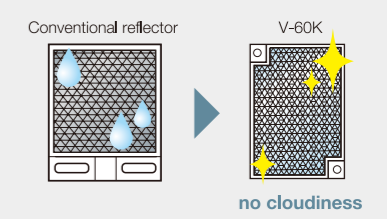
Rigid mechanics

100G standard, tough enough to resist mechanical shock and vibration.



V-60K (Anti-cloud reflector)

For high humidity conditions.

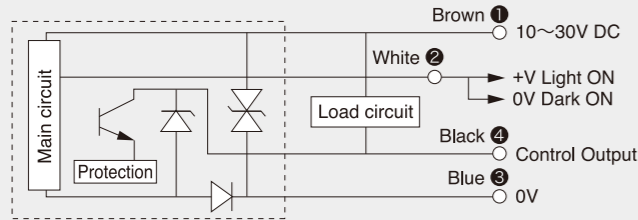


Options

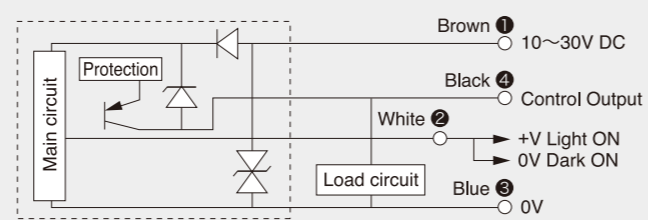


Circuit diagram

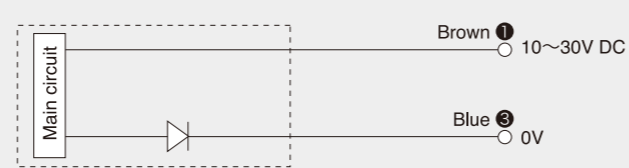
NPN output



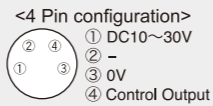
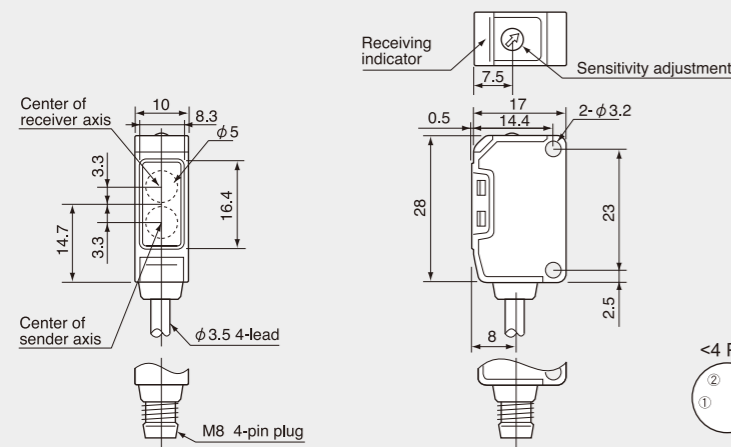
PNP output



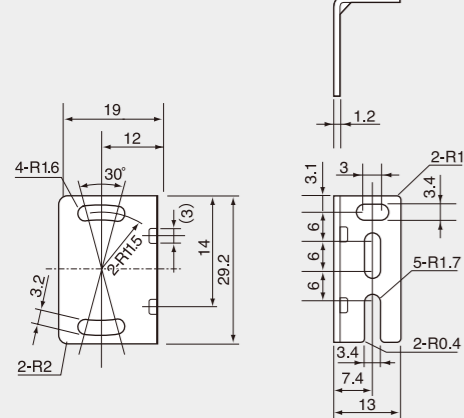
Emitter



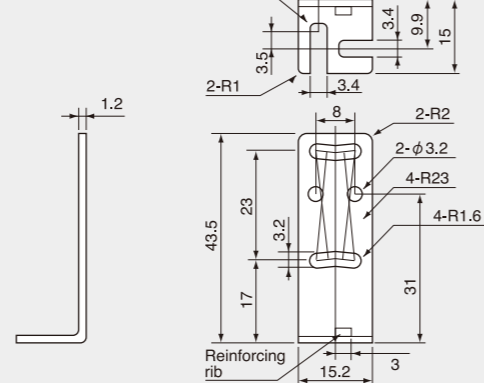
Dimensions



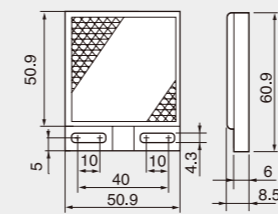
Standard Bracket for cable type (BEF-W150-A)



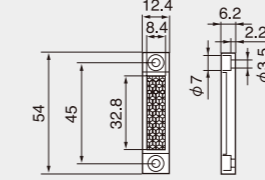
Standard Bracket for M8 QD type (BEF-W150-B)



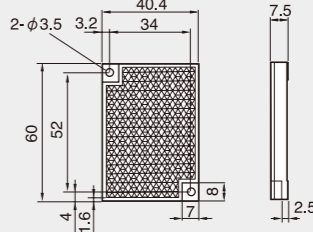
Standard reflector V-61



Tiny reflector P-45



Anti-cloud reflector V-60K



(Unit : mm)

Specifications

Model	Cable type	Connector type
NPN output	SR-Q50NW	SR-Q50CNW
PNP output	SR-Q50PW	SR-Q50CPW
Sensing distance	500mm (With V-61)	
Light source	Red LED (660nm)	
Response time	0.5ms	
Sensitivity adjustment	Sensitivity volume adjustment (270 degrees)	
Control output	NPN/PNP open collector, max. 100mA/30VDC	
Connection	4-lead cable, 2m	M8 4-pin
Insulation resistance	20MΩ Max. (500VDC)	
Supply voltage	10 to 30VDC including 10% of ripple	
Power consumption	30mA max.	
Noise resistance	JIS Standard C4525 500V IEC Standard IEC801-2,3,4 Level 3	
Operating	Temp/humidity	-25 to 55°C/35 to 85%RH
	Environmental illuminance	Sunlight 10,000 lux max. /Incandescent light 3,000 lux max.
	Vibration resistance	10 to 55Hz, Amplitude 1.5mm, X/Y/Z axis 2 hours
	Shock resistance	Approx.100G (1000m/S ²), X/Y/Z axis 3 times on each
	Protection category	IP67
Material	PSF+PBT	
Weight	Approx. 5g (Without cable)	

Options

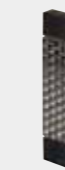
Standard reflector V-61



JCN-S : M8 Straight type



Tiny reflector P-45



JCN-L : M8 L-shape type



Anti-cloud reflector V-60K

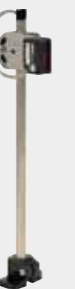


Protective mounting brackets LS-S01



Sensor stand PLN-1

Fixture of Reflector PLN-1M



LS-S02



C
E
J
J2
J3
V
V2
V3
V4
SR-Q
S
Z
BGS-Z
K
FGS-D
BGS-D
BGS-2S
Y
DM-18T
Accessory

Photoelectric Sensor
SR-Q series



Photoelectric Sensor
S series

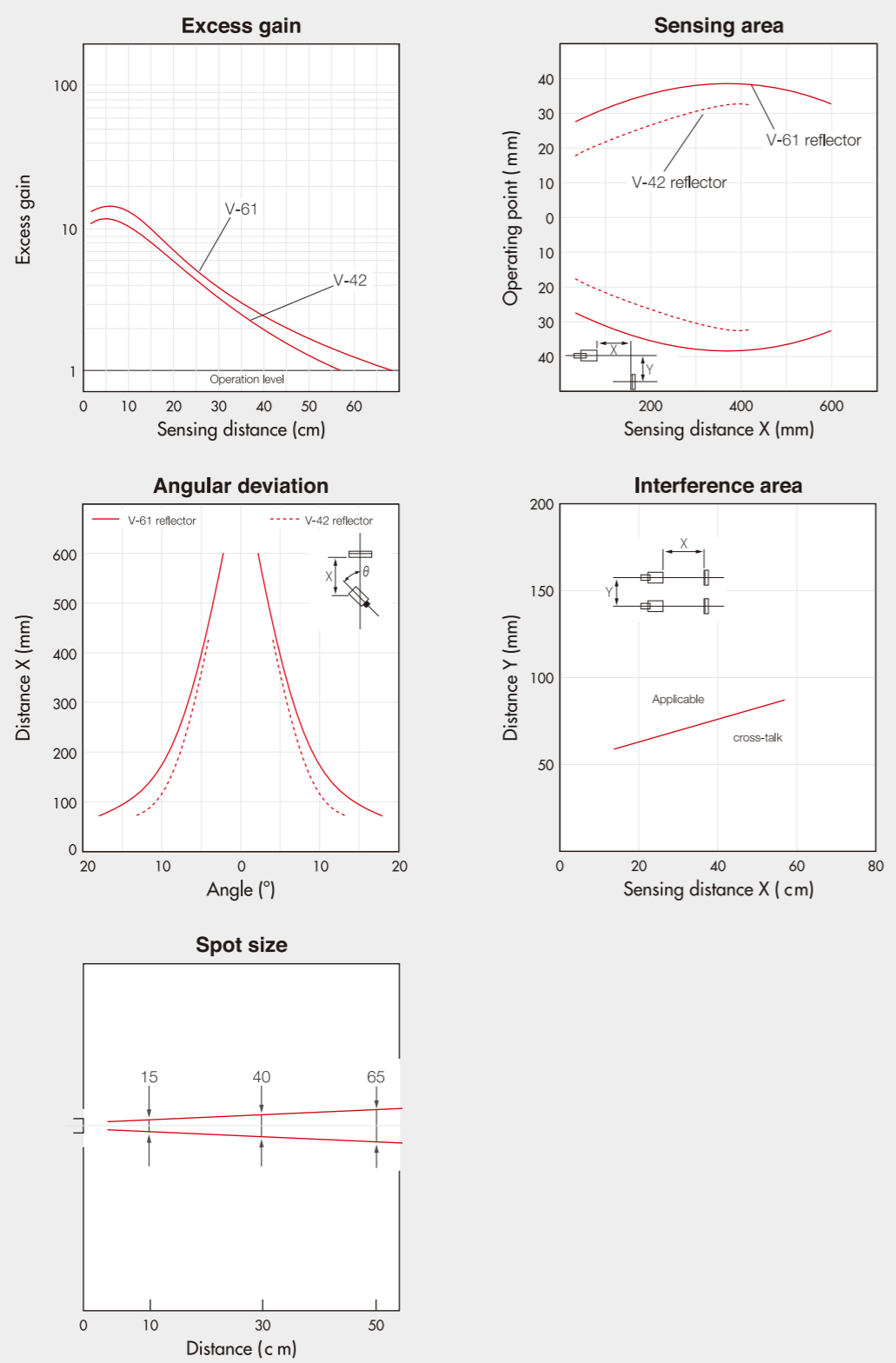
Thru-beam type
(Sensing distance : 4m)
· ST-400N / P / CN / CP

Retro-reflective type with polarizing filter
(Sensing distance : 1.5m)
· SR-150N / P / CN / CP

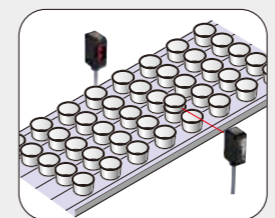
→
Next page

C
E
J
J2
J3
V
V2
V3
V4
SR-Q
S
Z
BGS-Z
K
FGS-D
BGS-D
BGS-2S
Y
DM-18T
Accessory

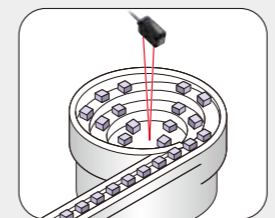
Reference (typical)



Applications



Double feeding of ice cream cup (ST-400)



Parts feeder (BGS-S08)

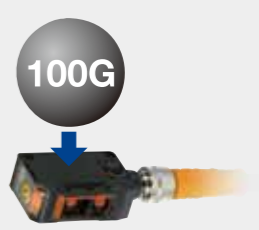
- **BGS functionality built into a small package!**
- **Built-in polarizing filter (Retro-reflective) type.**
- **100G shock resistance rating.**
- **M8 QD for all types.**

Features

Extremely small BGS type sensors (BGS-S08 and S03) are only 17×10×20 mm. Ideal for use in OEM equipment such as Printed Circuit Board processing machines.

High rigidity for 100G shock resistance / IP67

Rigid design for high resistance to mechanical shock such as contact or collision.

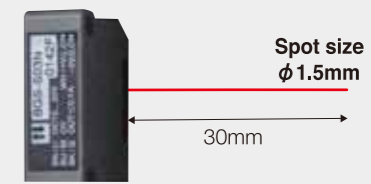


0.5ms high speed response

High speed response even with transparent targets.



BGS-S03, with 1.5φ spot at 30mm distance



Diffuse reflective type

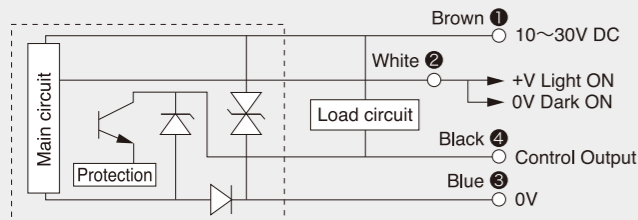
(Sensing distance : 200mm)
· SR-20N / P / CN / CP

BGS type

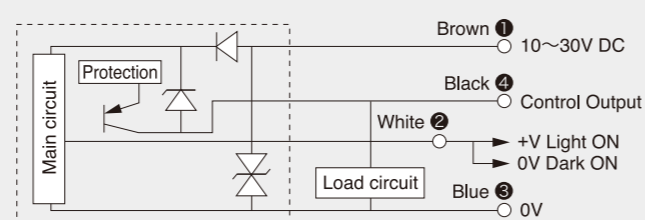
(Sensing distance : 10 to 80mm) (Sensing distance : 10 to 30mm)
· BGS-S08N / P / CN / CP · BGS-S03N / P / CN / CP

Circuit diagram

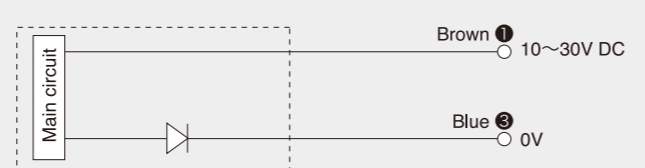
NPN output



PNP output



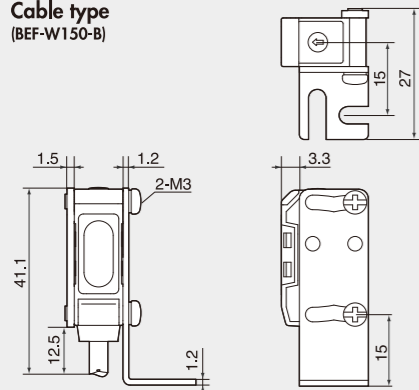
Emitter



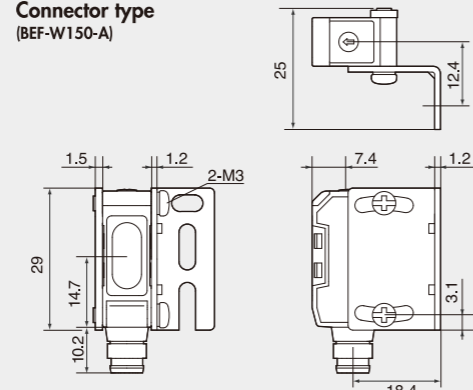
Dimensions

S series

Cable type
(BEF-W150-B)

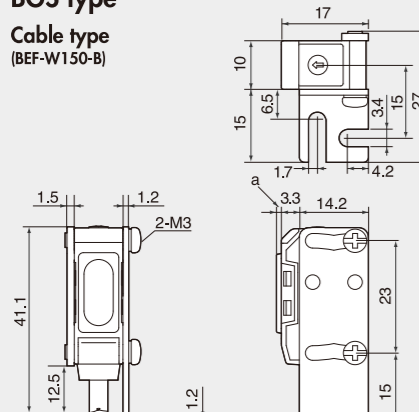


Connector type
(BEF-W150-A)

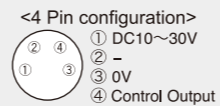
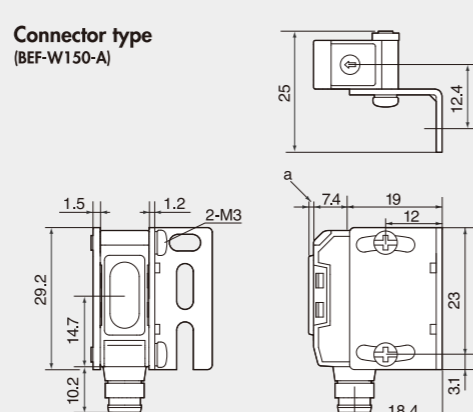


BGS type

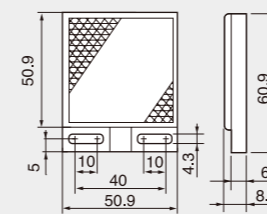
Cable type
(BEF-W150-B)



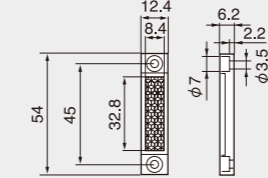
Connector type
(BEF-W150-A)



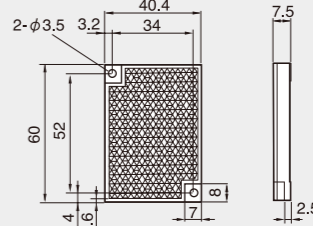
Standard reflector V-61



Tiny reflector P-45



Anti-cloud reflector V-60K



(Unit : mm)

Specifications

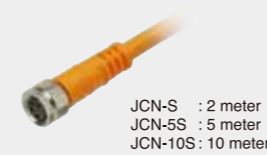
Model	Thru-beam	Retro-reflective with polarizing Filter	Diffuse reflective	BGS
Cable type	NPN ST-400N PNP ST-400P	SR-150N SR-150P	SD-20N SD-20P	BGS-S08N BGS-S08P BGS-S03N BGS-S03P
Connector type	NPN ST-400CN PNP ST-400CP	SR-150CN SR-150CP	SD-20CN SD-20CP	BGS-S08CN BGS-S08CP BGS-S03CN BGS-S03CP
Sensing distance	4 m	1.5 m	200 mm	10 to 80 mm 10 to 30 mm
Supply voltage	10 to 30V DC including 10% of ripple			
Power consumption	30mA	20mA Max		
Hysteresis	—		20% MAX	10% MAX
Minimum detectable object	φ 6 opaque object	□45mm opaque object	—	—
Response time	0.5msec Max			
Control output	NPN or PNP Open collector, 100mA Max / 30V DC			
Operating mode	Light ON / Dark ON selectable			
Sensitivity adjustment	1-turn potentiometer			5-turn potentiometer
LED Indicator	Red			
Operating temp / humidity	-25 to +55°C / 35 to 85%RH			
Protection category	IP67			
Environmental illuminance	Sun Light:10,000 lux max. Incandescent lamp:3,000 lux max.			
Shock resistance	100G (1,000m/S ²) X,Y,Z, axis 3 times			
Vibration resistance	10 to 55 Hz amplitude 1.5mm, X-Y-Z for 2 hours			
Connection	"Cable type: Cable length 2m φ3.5mm (Longer cable type of 5m is available as option) Connector type: M8 x 4-pin connector"			

Options

Standard reflector V-61



JCN-S : M8 Straight type



Tiny reflector P-45



JCN-L : M8 L-shape type



Anti-cloud reflector V-60K



Protective mounting brackets.
L-shape type LS-S01
Straight type LS-S02

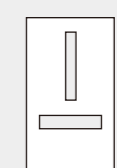


Sensor stand PLN-1

Fixture of Reflector PLN-1M



BL-150-10
Slit mask for ST-400



Photoelectric Sensor
S series



Photoelectric Sensor
Z / BGS-Z series

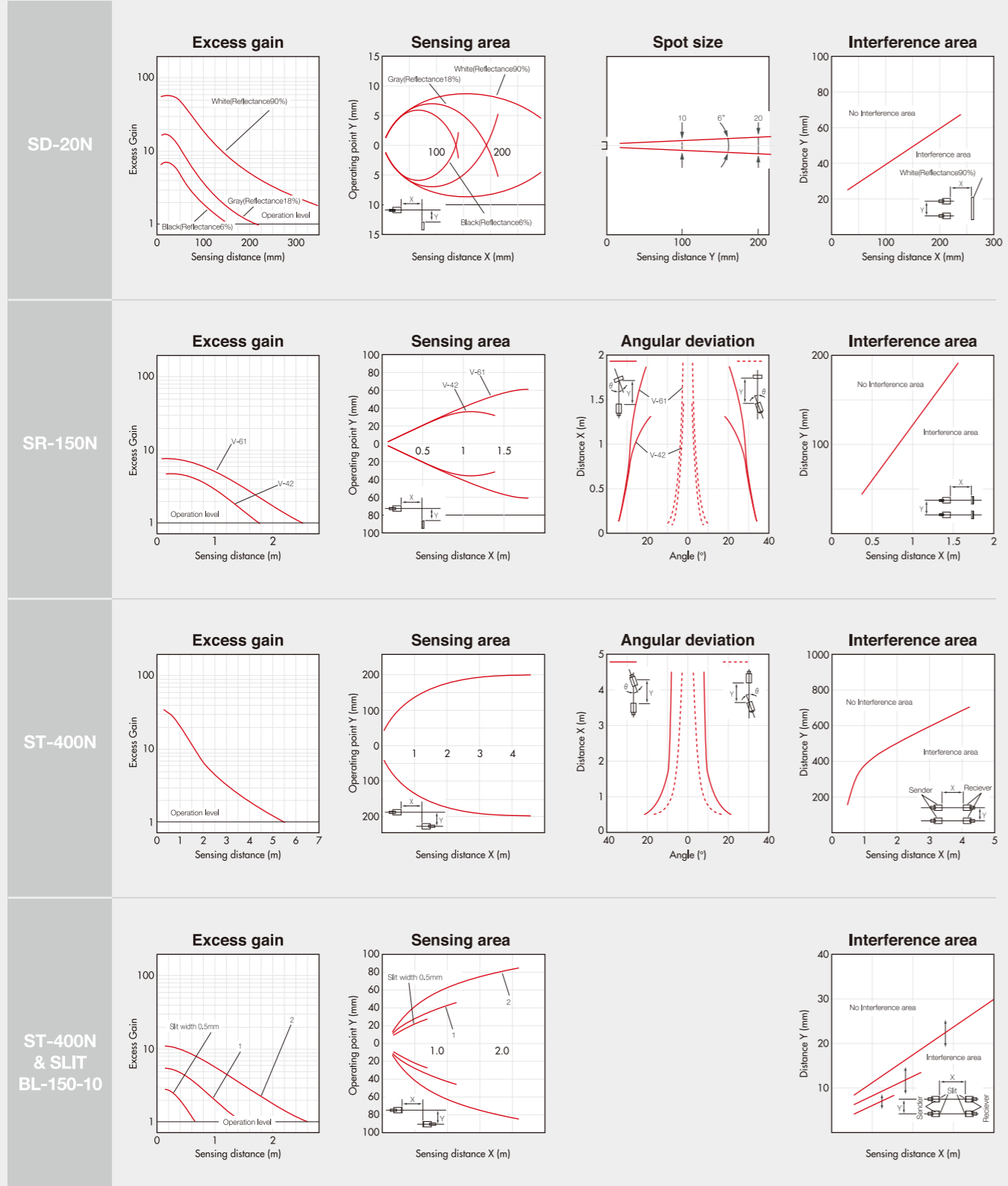
Thru-beam type
(Sensing distance : 12m)
· ZT-1200N / P / CN / CP

Polarized Retro-reflective
(Sensing distance : 3.5m)
· ZR-350N / P / CN / CP

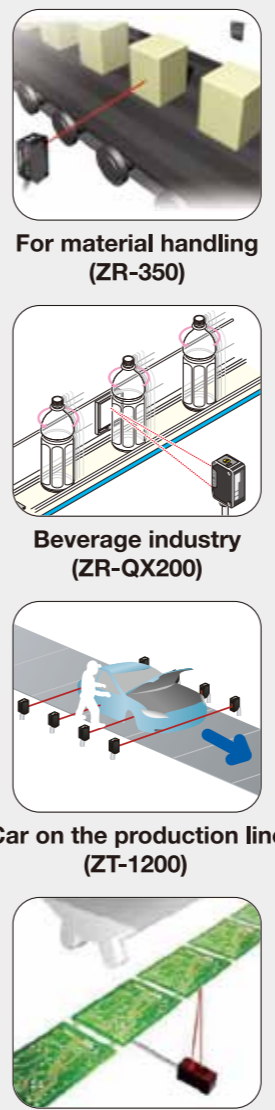
Diffuse-reflective
(Sensing distance : 70cm)
· ZD-70N / P / CN / CP

→ Next page

Reference (typical)



Applications



- **High Performance, Low Cost! All models offer cost and space savings.**
- **ZR-Q series. Ideal for detection of transparent objects! Plastic bottles, film, etc.**
- **ZR-X/QX series, Coaxial beam. Sensing through narrow opening is possible!**
- **BGS-Z series. High performance in small package!! Tough sensor! 100G shock resistance and IP67 ratings.**

Features

<p>Thru-Beam type</p> <p>ZT-1200N / ZT-1200P ZT-1200CN / ZT-1200CP</p>	<p>Convergent type</p> <p>ZD-L09N / ZD-L09P ZD-L09CN / ZD-L09CP</p>
<p>Retro Reflective type</p> <p>ZR-350N / ZR-350P ZR-350CN / ZR-350CP</p>	<p>Diffuse type (incl. divergent type)</p> <p>Diffuse ZD-70N / ZD-70P ZD-70CN / ZD-70CP</p> <p>Divergent ZD-W20N / ZD-W20P ZD-W20CN / ZD-W20CP</p>
<p>BGS type</p> <p>BGS-Z30N / BGS-Z30P BGS-Z30CN / BGS-Z30CP BGS-Z10N / BGS-Z10P BGS-Z10CN / BGS-Z10CP</p>	<p>Coaxial LED type</p> <p>General use ZR-X250N / ZR-X250P ZR-X250CN / ZR-X250CP</p> <p>Transparent objects ZR-QX200N / ZR-QX200P ZR-QX200CN / ZR-QX200CP</p>

- Convergent**
(Sensing distance : 1-9cm)
· ZD-L09N / P / CN / CP
- Divergent**
(Sensing distance : 0-200mm)
· ZD-W20N / P / CN / CP
- Glass detection**
(Sensing distance : 2m)
· ZR-Q200N / P / CN / CP

- Retro Reflective (General Use)**
(Sensing distance : 0.01-2m)
· ZR-Q200N / P / CN / CP
- Retro Reflective (Coaxial Beam)**
(Sensing distance : 0-2m)
· ZR-QX200N / P / CN4 / CP4
- Polarized Retro-reflective**
(Sensing distance : 0-2.5m)
· ZR-X250N / P / CN4 / CP4

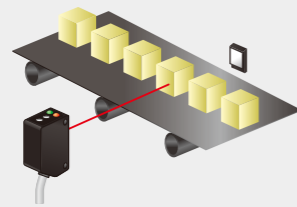
General Purpose

- **100G shock resistance, IP67 ratings. Tough sensor !**
- **ZR-Q series, ideal for detection of PET bottles, transparent objects, etc.**
- **Standard models for cost saving.**

Features

500μsec response

Good for fast moving objects.



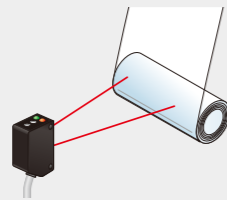
Cross-talk prevention

With built-in cross-talk prevention, it is possible to mount two sensors side-by-side without mutual interference. (Use part number BL-100-POLF for thru-beam type sensors.)



ZD-W20 wide angle applications

The Divergent type ZD-W20 provides a wide angle beam that can be used to detect transparent film by collecting the reflected light from the material surface.



IP67 rating

Hose it down!
Water-tightness is tested to IP67.



Rugged 100G shock rating

Rigid design for high resistance to mechanical shock



Threaded mounting holes

Prevents sensor from being damaged when it's mounted.



Specifications

Model	Thru-beam	Polarized Retro-reflective	Diffuse-reflective	Convergent	Divergent	Glass detection
Cable type	NPN ZT-1200N PNP ZT-1200P	ZR-350N ZR-350P	ZD-70N ZD-70P	ZD-L09N ZD-L09P	ZD-W20N ZD-W20P	ZR-Q200N ZR-Q200P
M8 Connector type	NPN ZT-1200CN PNP ZT-1200CP	ZR-350CN ZR-350CP	ZD-70CN ZD-70CP	ZD-L09CN ZD-L09CP	ZD-W20CN ZD-W20CP	ZR-Q200CN ZR-Q200CP
Sensing distance	12 m	3.5m (V-61 reflector)	70cm	1-9 cm	1-200 mm	2 m (V-61 reflector)
Response time	0.5 msec					
Spot size	1.5m @ 12 meter	350mm @ 3.5 meter	100mm @ 700mm	12mm @ 90mm	30mm @ 50mm	300mm @ 2 meter
Operating mode	Light On/Dark On selectable					
Hysteresis	NIL		20% Max	10% Max	20% Max	NIL
Light source	Red LED					
Sensitivity adjustment	1-turn trimmer (240 degree)					
Control output	NPN or PNP Open collector, 100mA Max / 30V DC					
Supply voltage	DC 10 - 30V incl. 10% ripple					
Power consumption	20mA Max					
LED Indicator	Dual Indicator (Output : orange, Stable : green)					
Protection category	IP67					
Shock resistance	100G (1,000m/S ²)					
Environmental illuminance	Sunlight : 10,000 lux Max., Incandescent lamp : 3,000 lux max.					
Operating temp/humidity	-25 to 55°C / 35 to 85%RH					
Materials	ABS with glass fiber (Case), PMMA (Lens)					

Retro-Reflective with Coaxial LED

The best for transparent Plastic / Glass detection

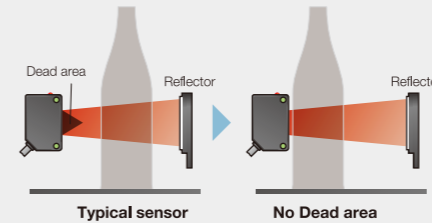
- **Coaxial LED source gives extremely tight alignment to the target.**
- **Alignment of sensor is easy thanks to bright projected LED spot.**
- **250 μsec fast response (ZR-X, coaxial beam type)**
- **World's standard model ZR-Q (general type) and ZR-QX (coaxial beam type) for Plastic and Glass applications.**

Features

Zero dead area!

The sensor has no dead area in the sensing field.

This makes it ideal for use on conveyors where the position of the target changes.

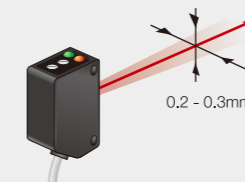


Repeat Accuracy

Very tight Repeat Accuracy, 0.2 - 0.3mm for BGS type.

Even Thru-beam and Retro types have 0.3mm Repeat Accuracy(*).

*=Tested at the middle point of sensing range.



Good selection of sensors for various types of bottles.

Glass and plastic bottles come in various shapes / sizes and with many different contours which require testing in the field to determine the best sensor for the application. The Z series is offered with both Coaxial and Conventional LED light sources to provide a solution for the detection of any bottle type.



Coaxial LED

Coaxial LED light source provides extremely tight alignment to the target, Alignment of sensor is very easy thanks to bright projected LED spot.



Specifications

Model	Retro Reflective for Transparent				Polarized Retro-reflective (Coaxial Beam)	
	General Use		Coaxial Beam			
	2m Cable	M8QD 4pin	2m Cable	M8QD 4pin	2m Cable	M8QD 4pin
Type	NPN ZR-Q200N PNP ZR-Q200P	ZR-Q200CN ZR-Q200CP	ZR-QX200N ZR-QX200P	ZR-QX200CN4 ZR-QX200CP4	ZR-X250N ZR-X250P	ZR-X250CN4 ZR-X250CP4
Sensing distance	0.01 - 2 meter (V-61 reflector)			0 - 2 meter (P250F reflector)		0 - 2.5 meter (V-61 reflector)
Response time	0.5 msec				250μs	
Spot size	φ300mm / at 2m		φ60mm / at 2m		φ60mm / at 2m	
Operating mode	Light On / Dark On selectable					
LED Indicator	Output : orange, Stable : green			Output : orange		Output : orange, Stable : green
Light source	Red LED					
Sensitivity adjustment	1-turn pot.					
Control output	NPN or PNP open collector, 100mA max / DC30V					
Supply voltage	DC 10 - 30V, including 10% ripple					
Power consumption	20mA max					
Protection category	IP 67					
Shock resistance	100G (1,000m/S ²)					
Environmental illuminance	Sunlight : 10,000 lux max., Incandescent lamp : 3,000 lux max					
Operating temp/humidity	-25 to 55°C/ 35 to 85% RH					
Materials	ABS(Case), PMMA(Lens)					

"M8-QD in 3 pins for European machines " are available with extension code of -CN(P)3, for instance, "ZR-QX200CN3".

Long distance

(Sensing distance : 10-300mm)
· BGS-Z30N / P / CN / CP

Short distance

(Sensing distance : 5-100mm)
· BGS-Z10N / P / CN / CP

BGS - LED Type

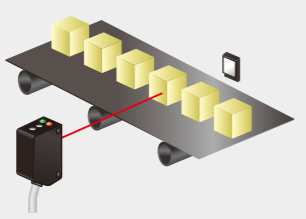
General purpose applications

- **BGS (Background Suppression Type) Sensors are not influenced by the background, available with conventional LED light source.**

Features

500μsec response

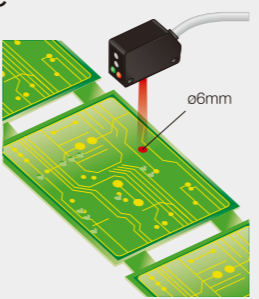
Good for fast moving objects.



Large projected spot size

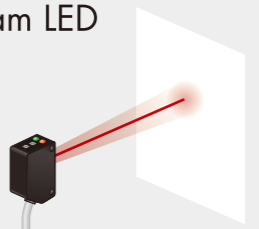
The LED version of the BGS sensors projects a large 6 mm spot that will not be affected by small holes in a PC board.

For PC boards that may have larger holes, the BGS-Z30 has an 18 mm projected spot size.



High power narrow beam LED

LED beam spot can be seen easily even in bright environment that helps installation.



4 Turn adjustment pot.

A four turn adjustment pot. is built-in for precise adjustment of the sensing distance.

The potentiometer has a slip clutch that protects it from damage when it is turned past the end.



Specifications

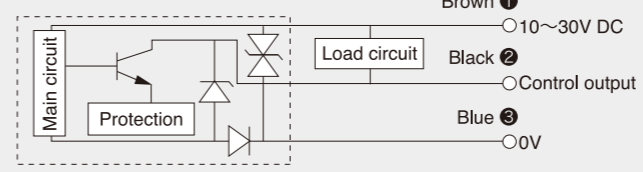
Model	long distance		short distance	
	2m Cable	M8QD 4pin	2m Cable	M8QD 4pin
Type	NPN BGS-Z30N PNP BGS-Z30P	BGS-Z30CN BGS-Z30CP	BGS-Z10N BGS-Z10P	BGS-Z10CN BGS-Z10CP
Adjustable distance	50 - 300 mm (*1)		20 - 100 mm (*1)	
Sensing distance	10 - 300 mm (*1)		5 - 100 mm (*1)	
Response time	500μs			
Spot size	φ30mm / 300mm		φ10mm / 100mm	
Hysteresis (white to white)	5%			
Operating mode	Light On / Dark On selectable			
LED Indicator	Output : orange, Stable : green			
Light source	Red LED			
Sensitivity adjustment	4-turn, endless pot.			
Control output	NPN or PNP open collector, 100mA max / DC30V			
Supply voltage	DC 10 - 30V, including 10% ripple			
Power consumption	30mA max			
Protection category	IP 67			
Shock resistance	100G (1,000m/S ²)			
Environmental illuminance	Sunlight : 10,000 lux max., Incandescent lamp : 3,000 lux max			
Operating temp / humidity	-25 to 55°C / 35 to 85% RH			
Materials	ABS(Case), PMMA(Lens)			

*1 "M8-QD in 3 pins for European machines" are available with extension code of -CN(P)3, for instance, "ZR-QX200CN3".

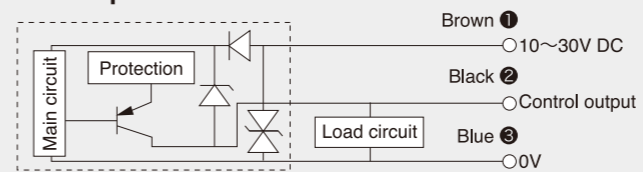
*1 white paper 100 X 100mm

Circuit diagram

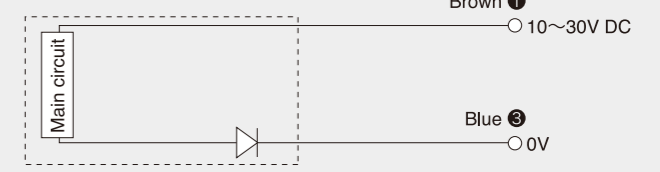
NPN output



PNP output

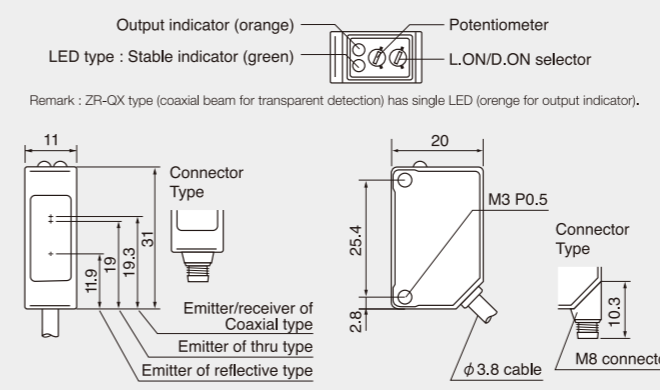


Emitter of Thru-beam type

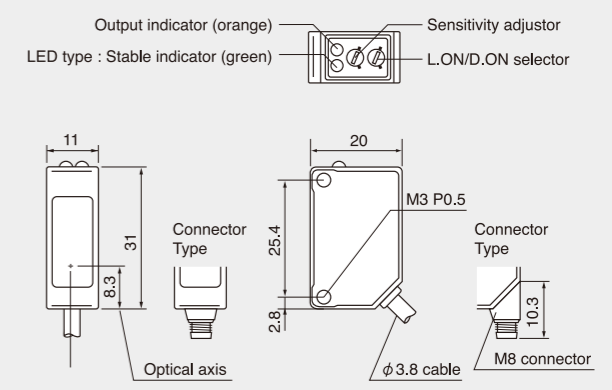


Dimensions

General Use Type except BGS



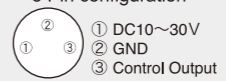
BGS Type



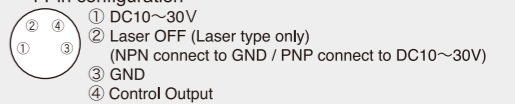
<Cable>

Brown : DC10~30V
Blue : GND
Black : Control Output
Gray : Laser OFF (Laser type only)
(NPN connect to GND / PNP connect to DC10~30V)

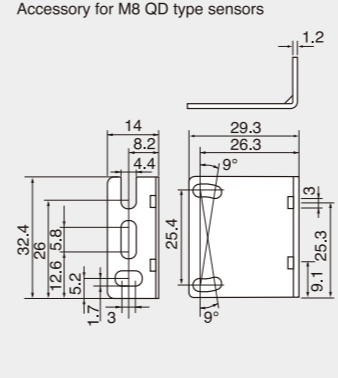
<3 Pin configuration>



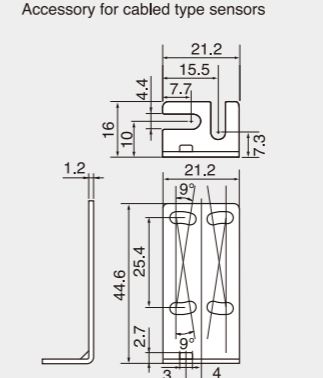
<4 Pin configuration>



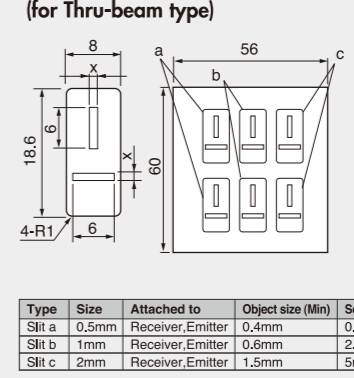
Standard bracket BEF-W-100-A



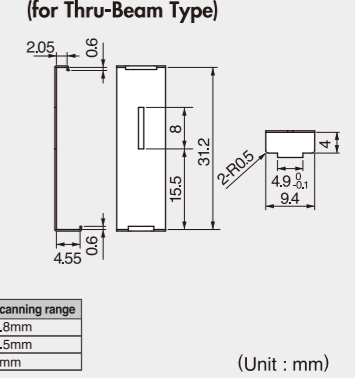
Standard bracket BEF-W-100-B



Slit mask BL-160-SK



Metal (SUS) Slit mask BL-100-M1

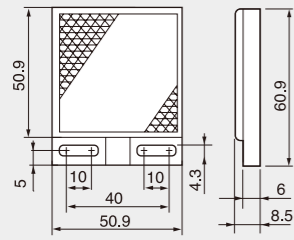


Type	Size	Attached to	Object size (Min)	Scanning range
Slit a	0.5mm	Receiver, Emitter	0.4mm	0.8mm
Slit b	1mm	Receiver, Emitter	0.6mm	2.5mm
Slit c	2mm	Receiver, Emitter	1.5mm	5mm

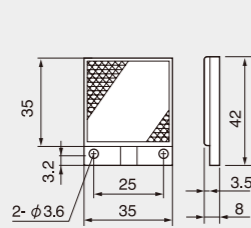
(Unit : mm)

Reflectors for LED Type

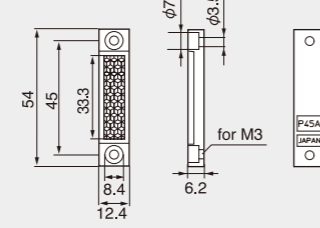
Standard reflector V-61
(Standard, LED type)



Small reflector V-42
(Optional, LED type)

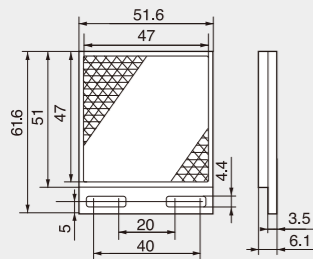


Tiny reflector P-45A
(Optional, LED type)

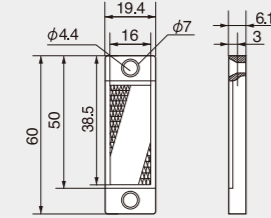


Reflectors for Coaxial LED Type

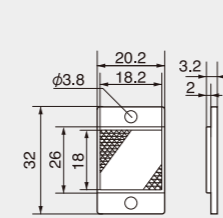
P250F
(Standard, ZR-QX200)



PL20F
(Optional)



PL10F
(Optional)



Detection distance by reflectors

	P250F	PL20F	PL10F
ZR-QX	4.0	2.8	1.0

(Unit : meter)

Options

Standard reflector V-61
(Except ZR-QX200)



P250F (ZR-QX200, standard)



JCN-S : M8 Straight type



JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

Small reflector V-42



PL20F (Optional)



JCN-L : L-shape M8 type



JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

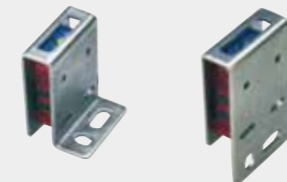
Tiny reflector P-45



PL10F (Optional)



Protective mounting brackets
LK-S01 LK-S02

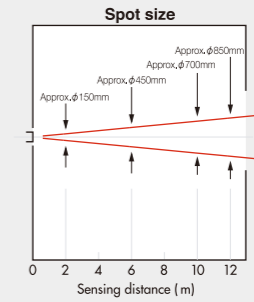
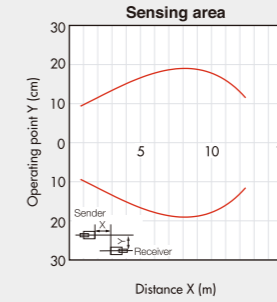
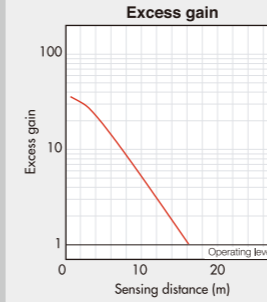


BL-100-POLF: Cross-talk prevention filter for ZT-1200

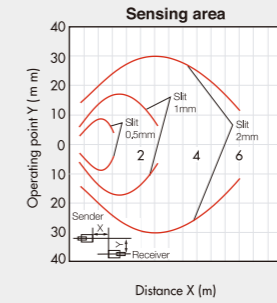
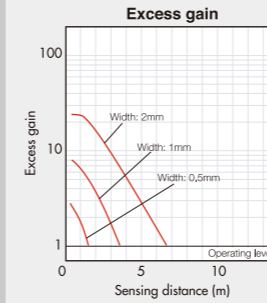


Reference (typical)

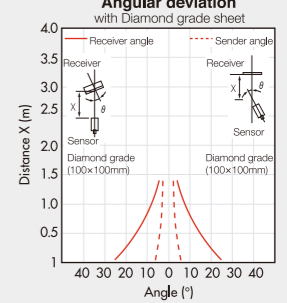
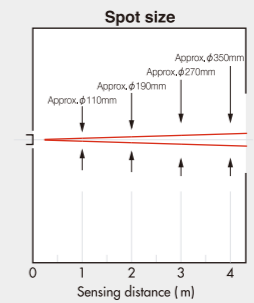
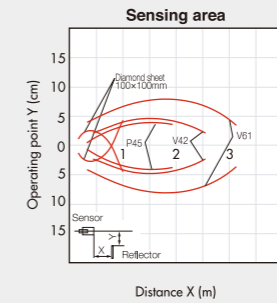
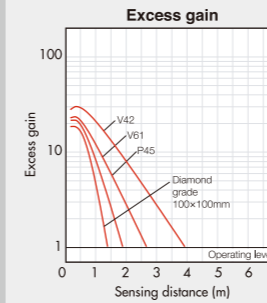
ZT-1200



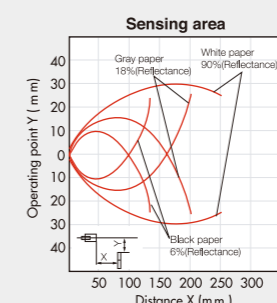
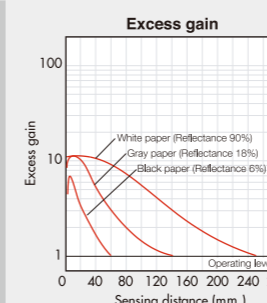
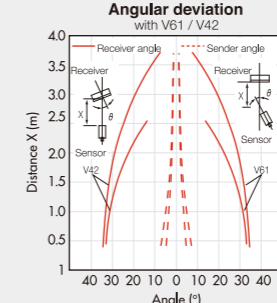
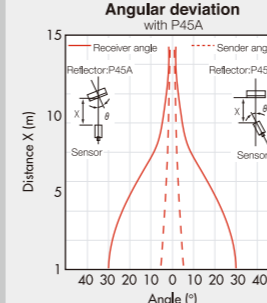
ZT-1200 & SLIT



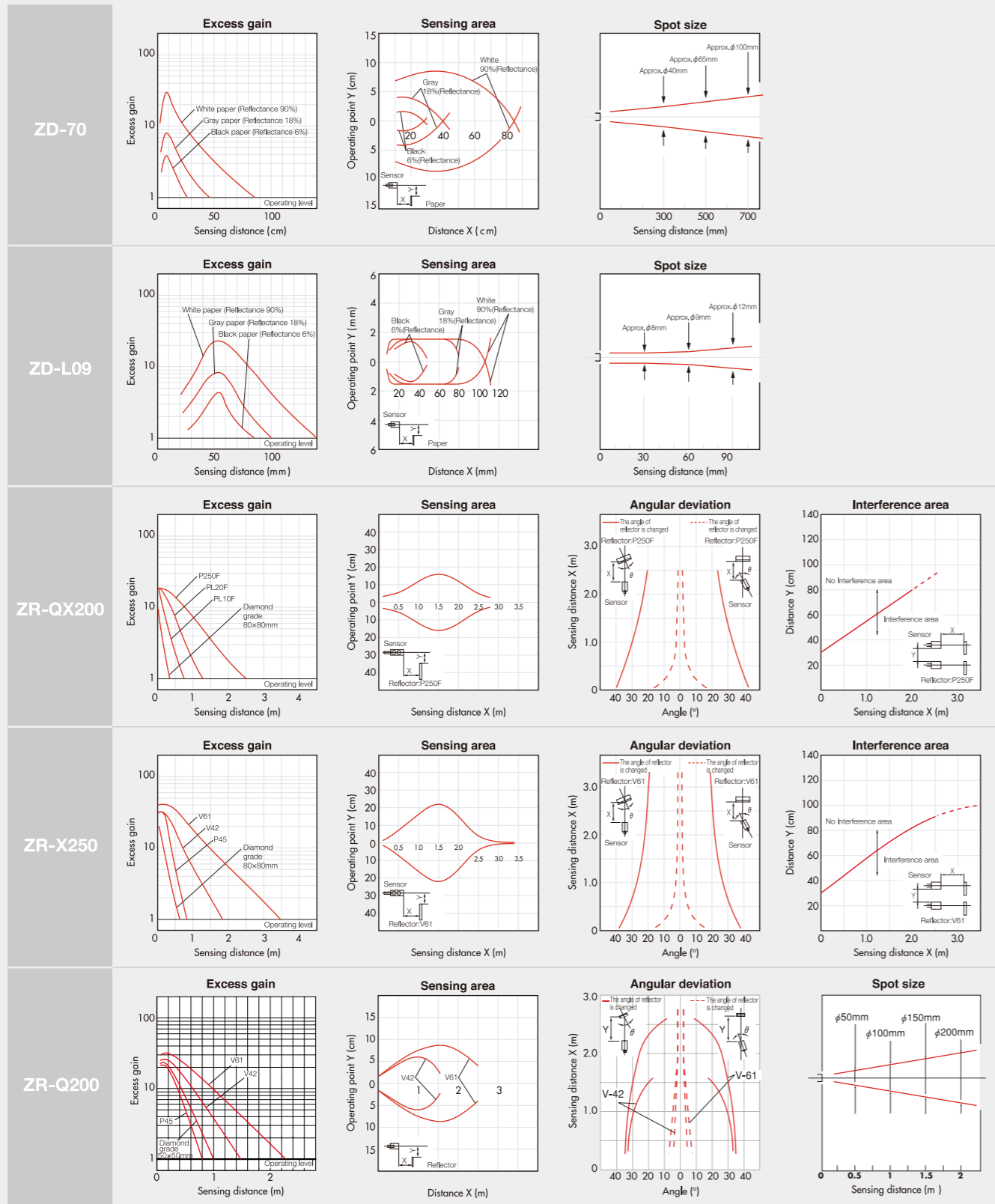
ZR-350



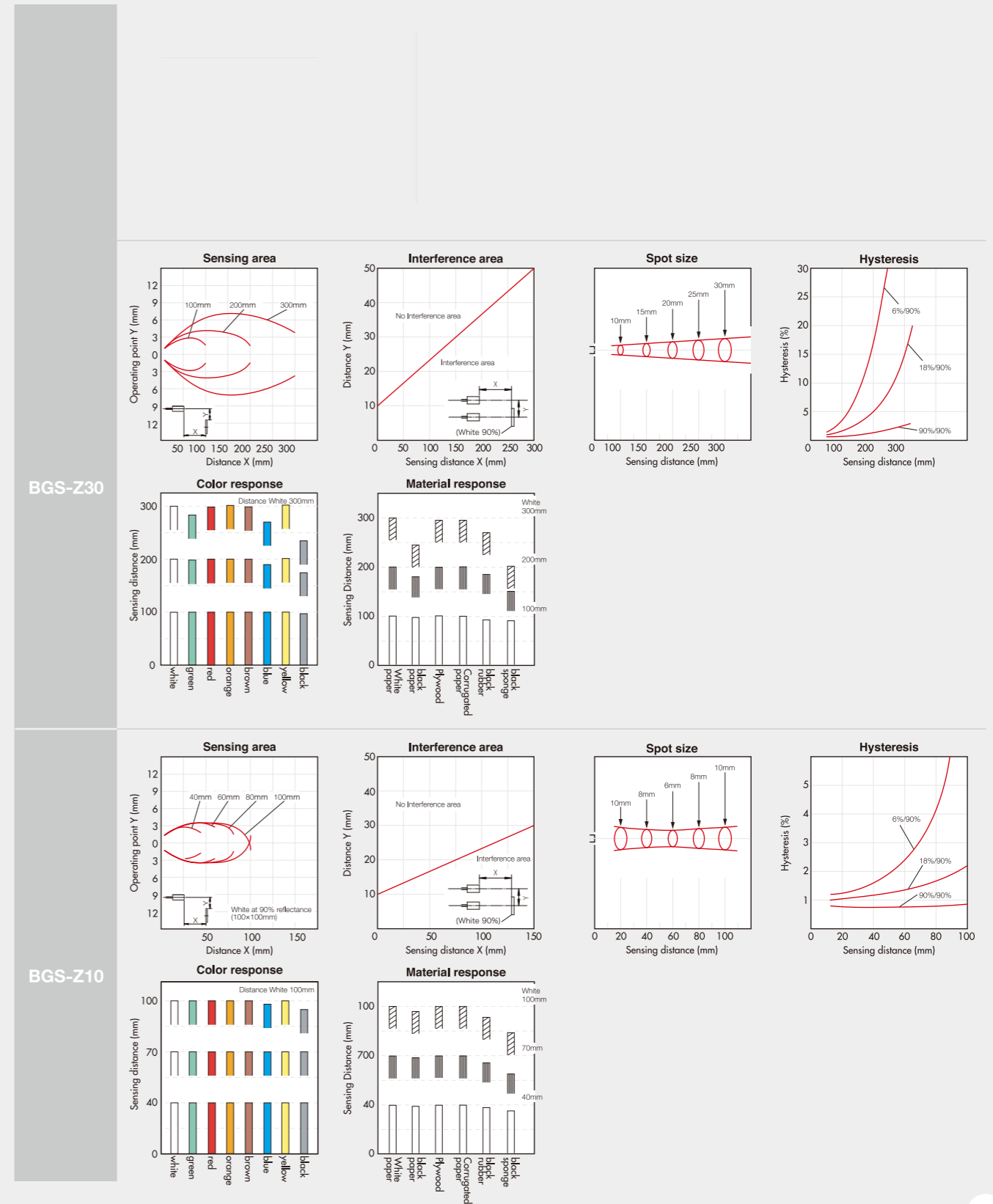
ZD-W20



Reference (typical)



Reference (typical)





Photoelectric Sensor K series

Thru-beam type
(Sensing distance : 7m)
· KT-700N / P / CN / CP

Retro-reflective type with polarizing filter
(Sensing distance : 2.5m)
· KR-250N / P / CN / CP

Diffuse reflective type
(Sensing distance : 40cm)
· KD-40N / P / CN / CP

Convergent type
(Sensing distance : 1 - 9cm)
· KD-L09N / P / CN / CP

Transparent object detection type
(Sensing distance : 3m)
· KR-Q300NW / PW / CNW / CPW

(Sensing distance : 1.5m)
· KR-Q150NW / PW / CNW / CPW

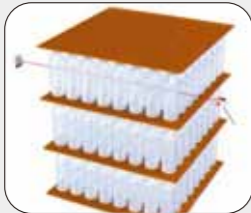
(Sensing distance : 50cm)
· KR-Q50NW / PW / CNW / CPW

- **Ideal for the detection of Glass/PET products.**
(KR-Q50 / KR-Q150 / KR-Q300)
- **Test input to verify operation.**
(KT-700 Thru-beam type)
- **IP67 rating, rugged design.**

Applications



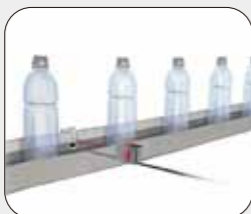
PET bottles moving on a conveyor



Pallet of PET bottles



Counting PET bottles



Sensing PET bottles through a narrow opening

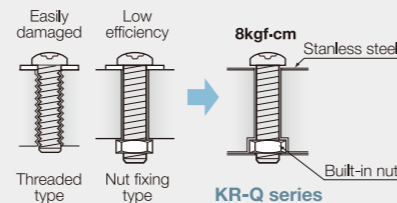
Features

Stainless steel housing.

The stainless steel housing helps to protect the sensor against mechanical damage if it is struck by passing objects.

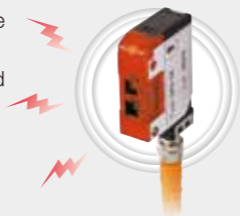
Built-in mounting nuts.

The built-in mounting nuts make installation easy and efficient, the problem of damaged threads due to over-tightening has been eliminated.

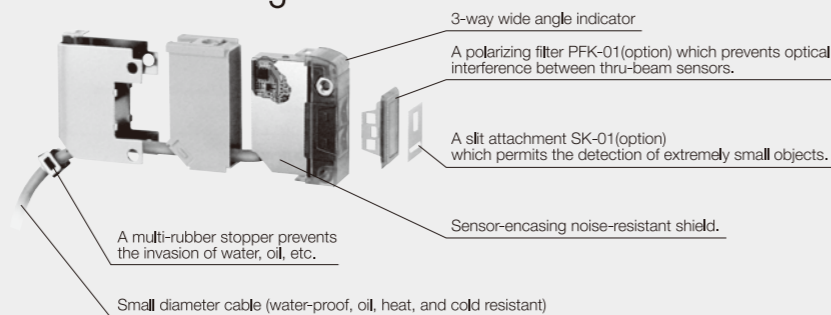


Surpasses the VDE standard for electrical noise immunity.

The noise resistant internal circuitry is designed in accordance with the strict VDE standard. Further, in-house Feilen Noise testing assures high reliability and compliance with international standards.

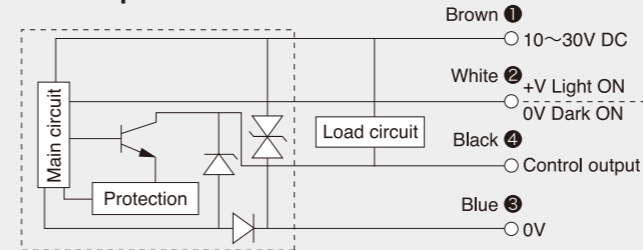


Case and housing

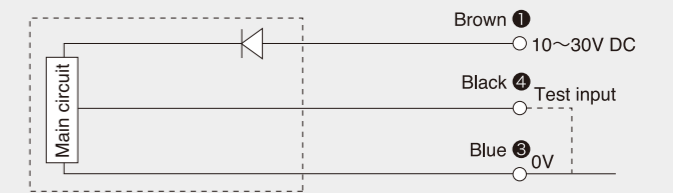


Circuit diagram

NPN output

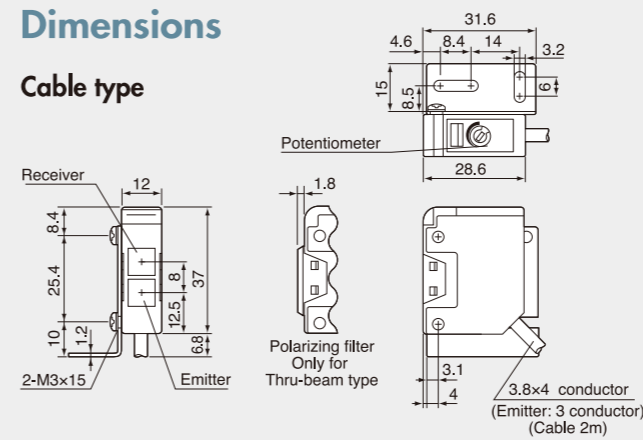


Emitter of Thru-beam type

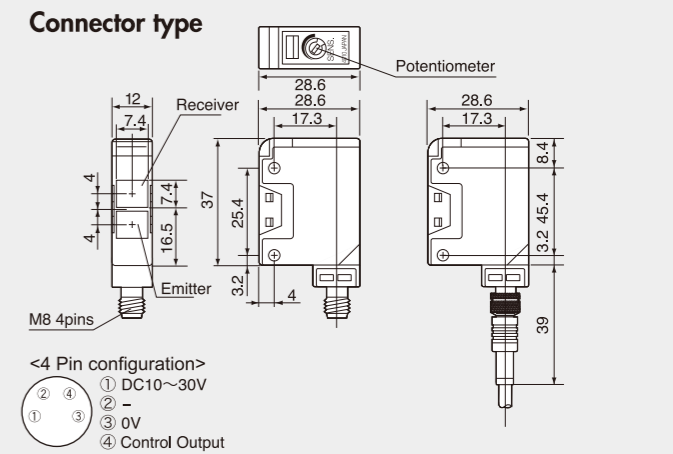


Dimensions

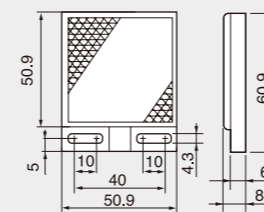
Cable type



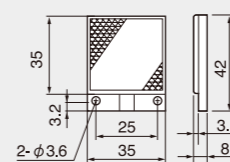
Connector type



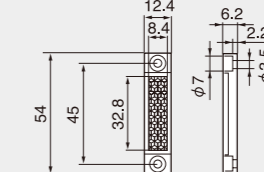
Standard reflector V-61



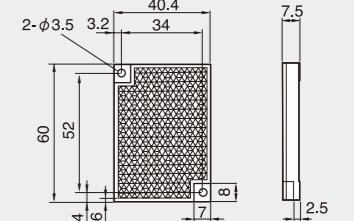
Small reflector V-42



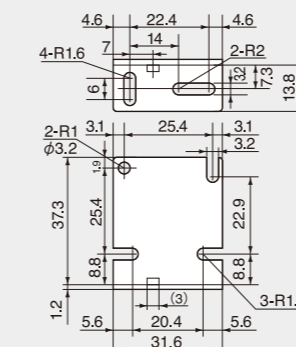
Tiny reflector P-45



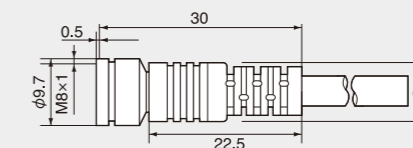
Anti-cloud reflector V-60K



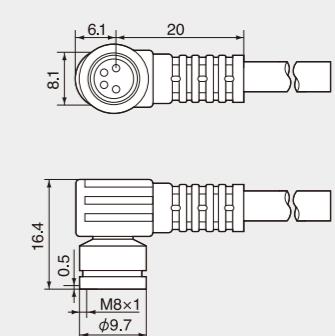
BEF-W170



JCN-S : M8 Straight type



JCN-L : M8 L-shape type



(Unit : mm)

Specifications

Model	Thru-beam	Retro-reflective with polarizing Filter	Diffuse reflective	Convergent	Glass sensing
Cable type	NPN KT-700N PNP KT-700P	KR-250N KR-250P	KD-40N KD-40P	KD-L09N KD-L09P	KR-Q50NW KR-Q50PW KR-Q150NW KR-Q150PW KR-Q300NW KR-Q300PW
Connector type	NPN KT-700CN PNP KT-700CP	KR-250CN KR-250CP	KD-40CN KD-40CP	KD-L09CN KD-L09CP	KR-Q50CNW KR-Q50CPW KR-Q150CNW KR-Q150CPW KR-Q300CNW KR-Q300CPW
Sensing distance	7 m	2.5 m	40 cm	1 - 9 cm	50 cm 1.5 m 3 m
Light source	Red				
Min detectable object	φ7mm	—	φ40mm	—	φ2.5mm (steel wire)
Response time	1msec Max	0.7msec Max			
Hysteresis	NIL		20% Max	10% Max	NIL
Sensitivity adjustment	Not equipped		Single turn potentiometer		
LED Indicator	Single Indicator				
Control output	NPN or PNP Open collector, 100mA Max / 30V DC				
Test input	Equipped		Not equipped		
Operating mode	Light ON / Dark ON selectable				
Insulation resistance	Min. 20 M Ohm / DC500V				
Supply voltage	10 to 30 V DC including 10% of ripple				
Power consumption	35mA Max	30mA Max			
Conformity	JIS, UL, CE, VDE				
Operating temp / humidity	-25 to +55°C / 35 to 85%RH				
Environmental illuminance	Sun Light:20,000 lux max. Incandescent lamp:4,000 lux max.				
Vibration resistance	10 50 55 Hz amplitude 1.5mm, X-Y-Z for 2 hours				
Protection category	IEC 144 IP67, VDE Level 3				
Material	ABS (Case), PC (Lens), SUS304 (Cover)				
Weight (Net)					25g

Options

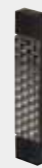
Standard reflector V-61



Small reflector V-42



Tiny reflector P-45



Anti-cloud reflector V-60K



JCN-S : M8 Straight type



JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

JCN-L : L-shape M8 type



JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

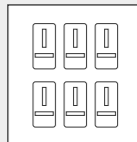
Protective mounting brackets
LK-S01 LK-S02



Sensor stand
PLN-1
Fixture of Reflector
PLN-1M



SK-01 : Slit



PKF-01 : Filter

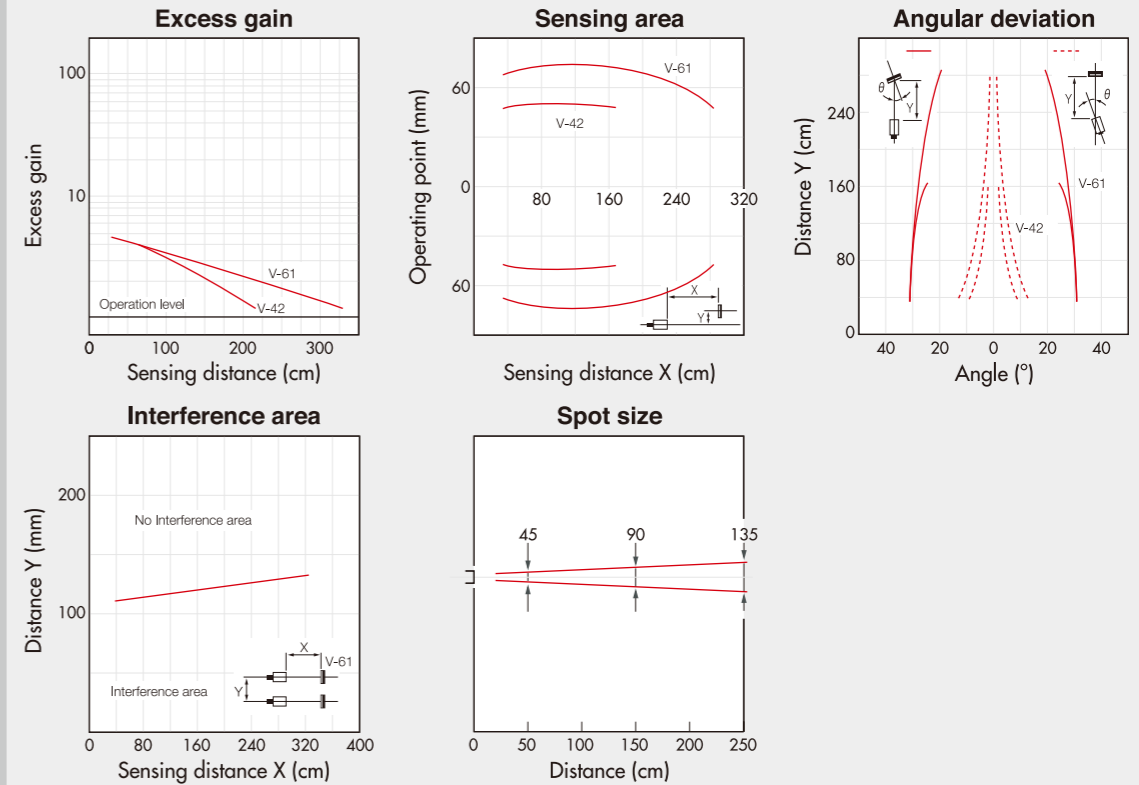


	Slit SK-01 (Emitter + receiver)	PoL filter PFK-01	Slit + filter
Sensing distance	1000mm	1000mm	500mm
Min. dia	φ1mm	φ7mm	φ1mm

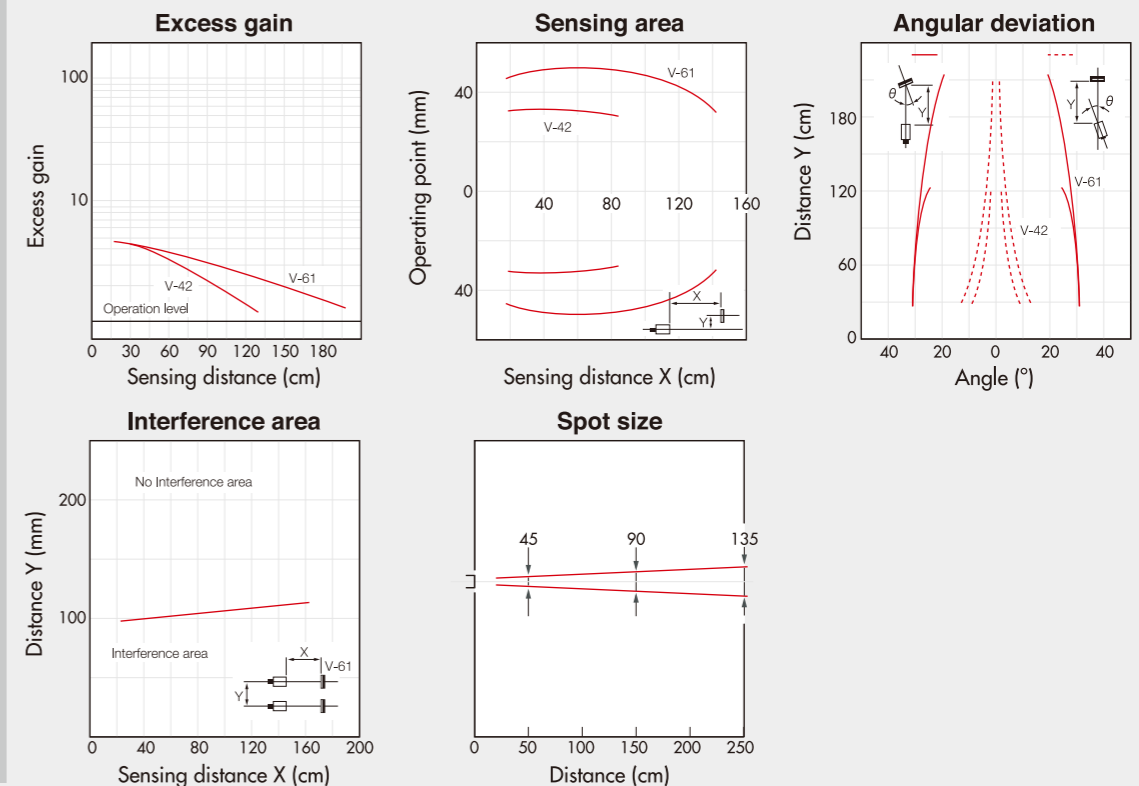
*Just peel the sticker off the backing and apply to the surface of the sensor.

Reference (typical)

KR-Q300NW



KR-Q150NW

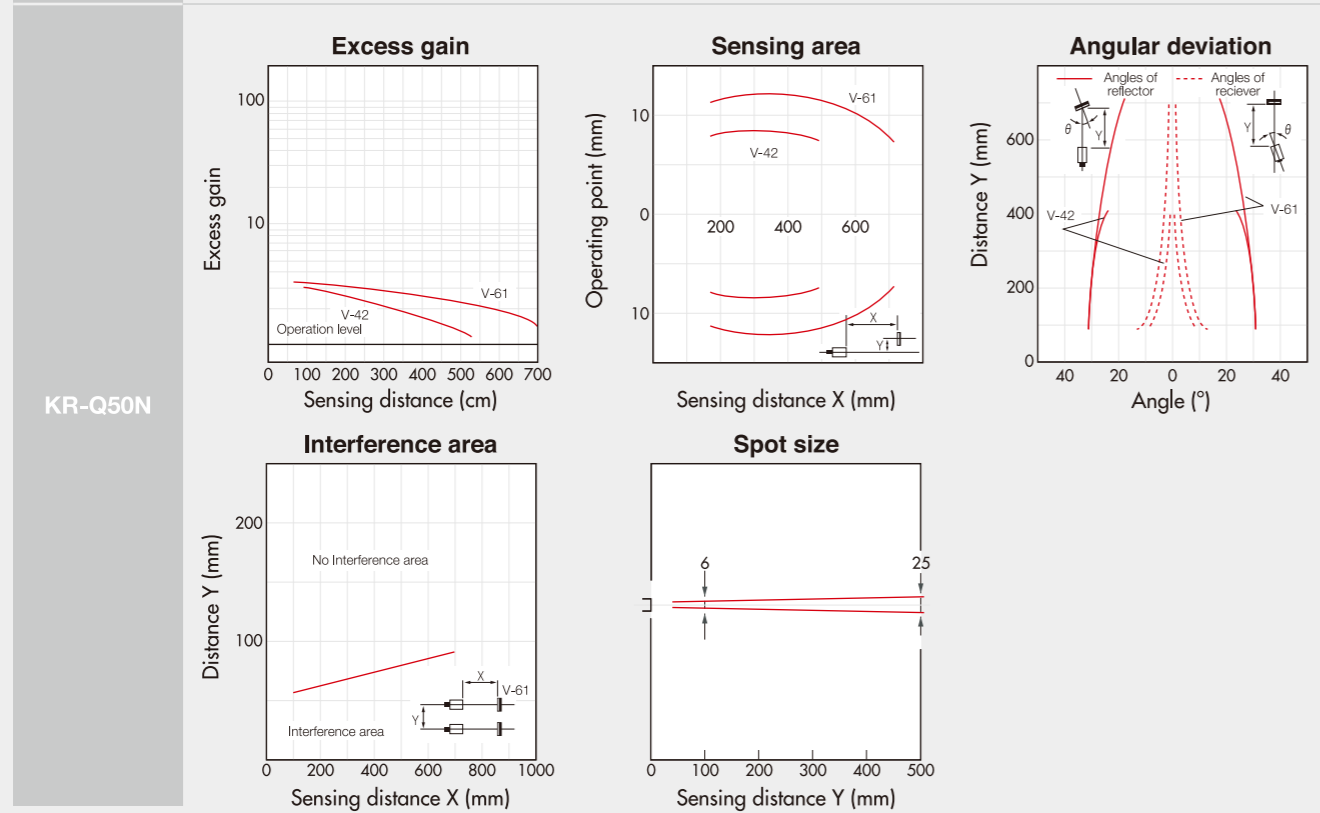
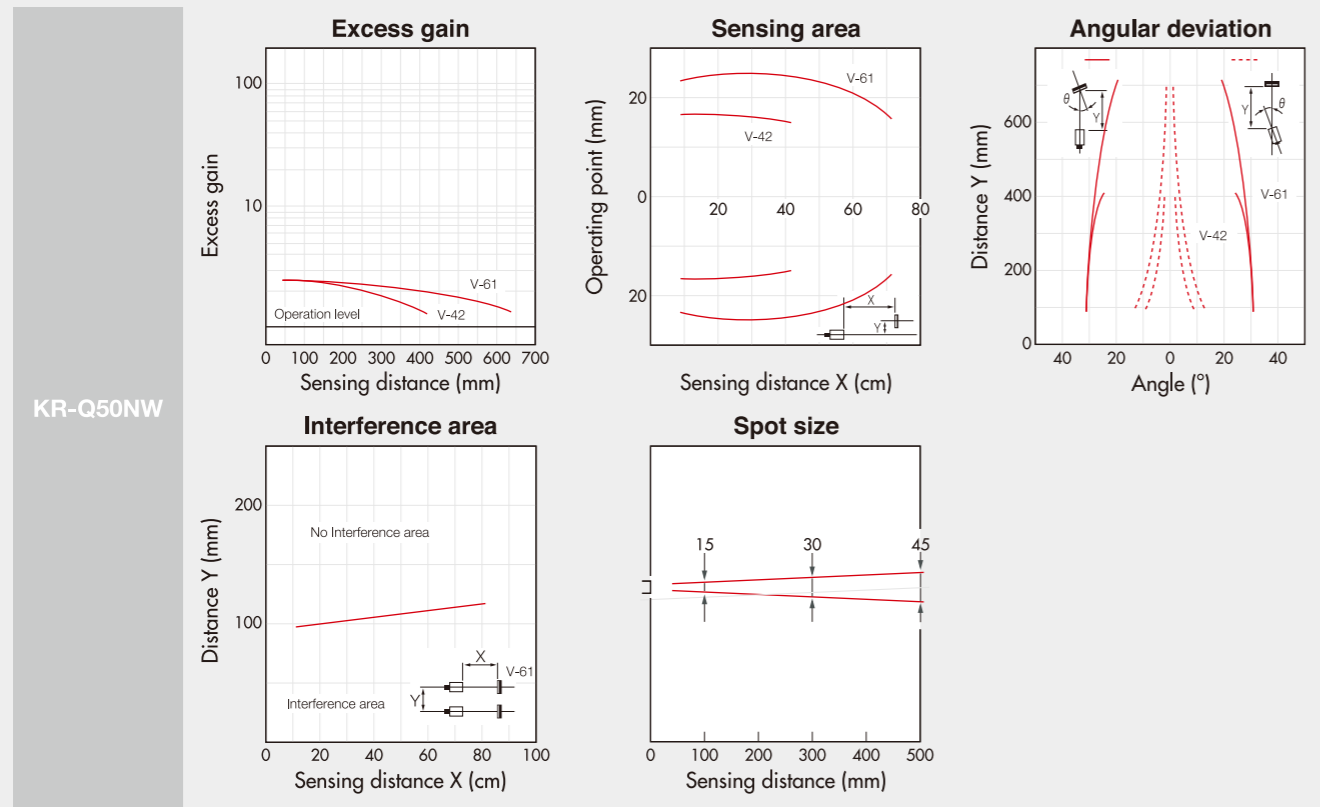




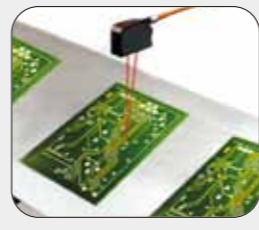
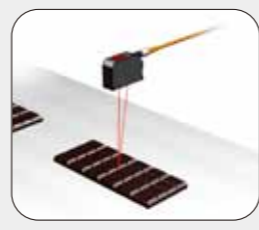
FGS-D series
(Sensing distance : 80 ± 20mm)
· FGS-D10N / P / CN / CP
(Sensing distance : 100 - 250mm)
· FGS-D25N / P / CN / CP

BGS-D series
(Sensing distance : 50 - 100mm)
· BGS-D10N / P / CN / CP
(Sensing distance : 100 - 300mm)
· BGS-D30N / P / CN / CP

Reference (typical)



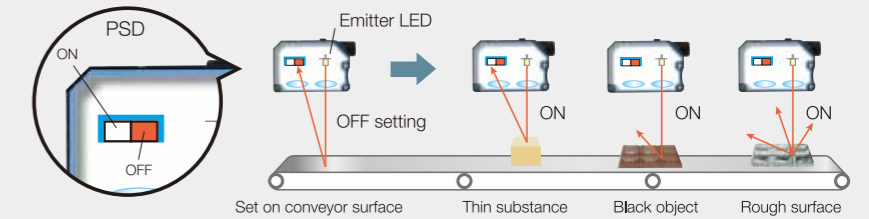
Applications



- High grade PSD (Position Sensing Device) is implemented in FGS (Foreground Suppression) system.
- Ideal for sensing thin objects lying on conveyor, etc.
- Numerical display for easier settings.

Features of "FGS" sensor

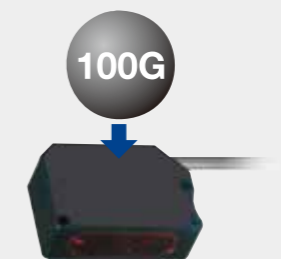
FGS (Foreground Suppression) sensors are able to reliably detect rough and black surfaces due to the PSD sensing element.



A digital display is the ideal way to verify the sensitivity setting.

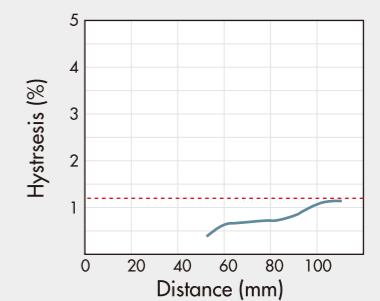


Mechanical toughness tested to 100G shock resistance.



3% Hysteresis

It is possible to sense a target that is 3 mm thick at 100 mm distance.



C
E
J
J2
J3
V
V2
V3
V4
SR-Q
S
Z
BGS-Z
K
FGS-D
BGS-D
BGS-2S
Y
DM-18T
Accessory

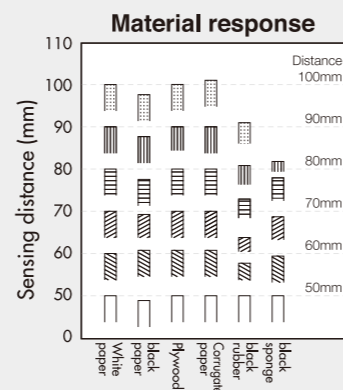
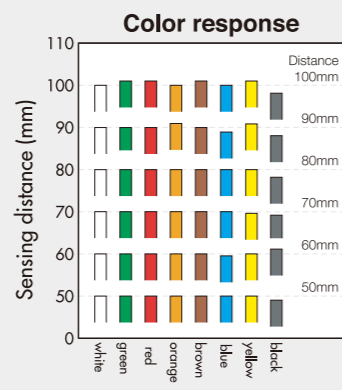
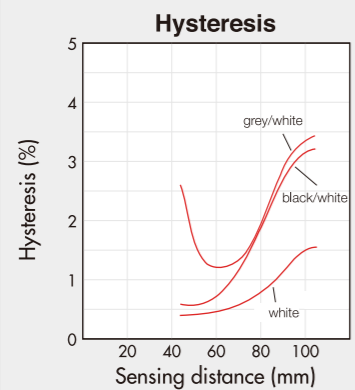
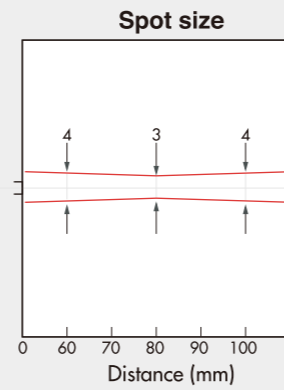
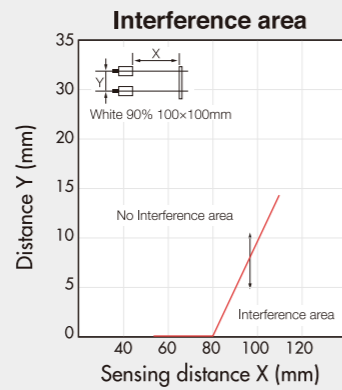
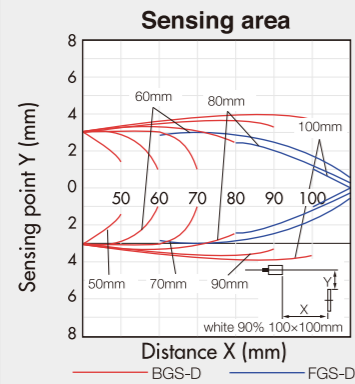
C
E
J
J2
J3
V
V2
V3
V4
SR-Q
S
Z
BGS-Z
K
FGS-D
BGS-D
BGS-2S
Y
DM-18T
Accessory



(Sensing distance : white 1-250mm / gray 2-250mm / black 5-200mm)
• BGS-2S25N / P / CN / CP
(Sensing distance : white 25-150mm / gray 25-150mm / black 25-80mm)
• BGS-2S15N / P / CN / CP

Next page

Reference (typical)



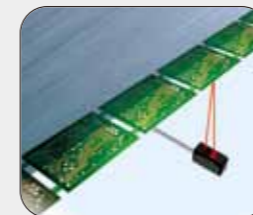
Applications



BGS-2S25N/P for black PC Boards



BGS-2S15N/P anti-inverter noise



BGS-2S10N/P for limited mounting space



BGS-2S30NT/PT for longer distance. Timer type (0-100msec)

BGS-2S25 Series

- Specially designed for black PC Boards.
- M8 QD types are available.

BGS-2S15 Series

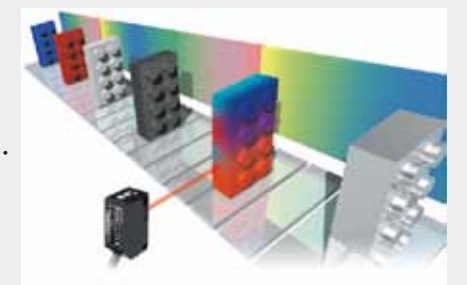
- Noise filter with anti-inverter design. Tolerant to environmental noise.
- Good for any PC Board except black colored.
- Standard BGS in Asia/Japan.

BGS-2S10 series

- For limited area. Good repeatability.

Features

BGS type sensors are designed to detect any target regardless of the color and/or background.

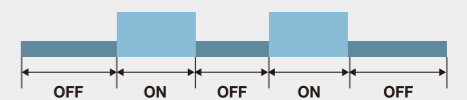


OFF delay timer (BGS-2S30T)

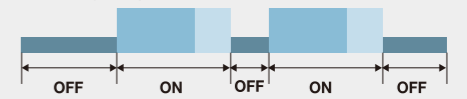
The BGS-2S30NT(PT) has a built-in Off-delay timer, 0 ~ 100 msec.



Standard output

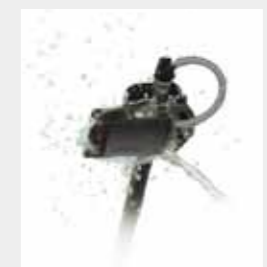


Off-delay output



IP67.

The one-shot molded housing results in an IP67 rating.



BGS-D10N
FGS-D10N

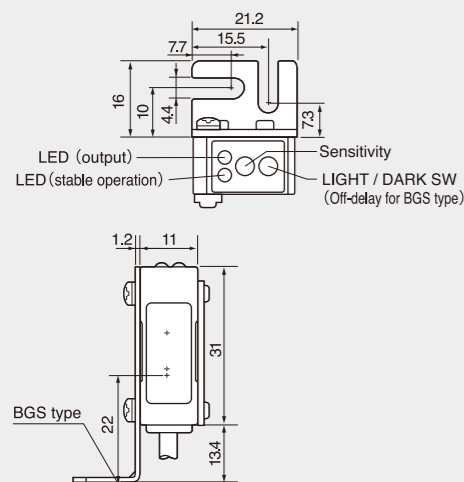
BGS-D30N
FGS-D25N

(Sensing distance : white 5-300mm / gray 10-300mm / black 15-200mm)
· BGS-2S30N / P / CN / CP
(Sensing distance : white 40-100mm / gray 40-100mm / black 20-70mm)
· BGS-2S10N / P / CN / CP

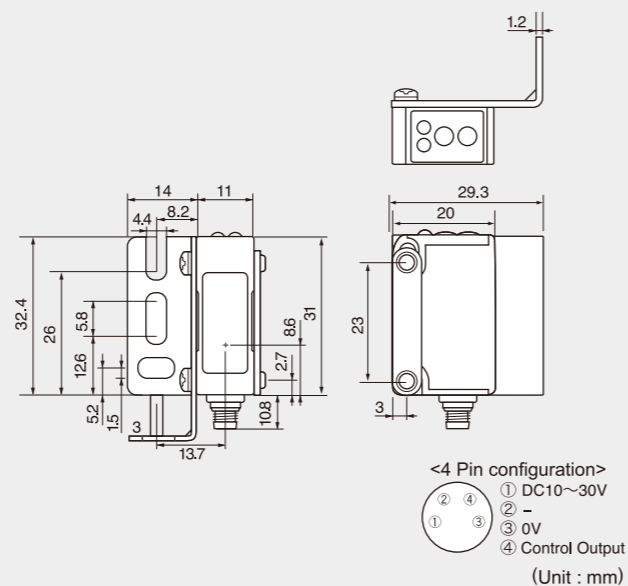
(Timer type of BGS-2S30)
· BGS-2S30NT / PT

Dimensions (BGS-2S15, BGS-2S10, BGS-2S25, BGS-2S30)

Cable Type (With Bracket BEF-W140B)



Connector Type (With Bracket BEF-W140A)



Specifications

Cable type	BGS-2S25N / BGS-2S25P	BGS-2S15N / BGS-2S15P	BGS-2S30N / BGS-2S30P	BGS-2S10N / BGS-2S10P	BGS-2S30NT / BGS-S30PT
Connector type	BGS-2S25CN / BGS-2S25CP	BGS-2S15CN / BGS-2S15CP	BGS-2S30CN / BGS-2S30CP	BGS-2S10CN / BGS-2S10CP	
Sensing distance	white grey black	25 - 150mm 25 - 150mm 25 - 80mm	5 - 300mm 10 - 300mm 15 - 200mm	40 - 100mm 40 - 100mm 20 - 70mm	5 - 300mm 10 - 300mm 15 - 200mm
Response time	0.5m sec Max				
Repeatability	parallel vertical	2.0mm 0.5mm	1.5mm 0.3mm	2.5mm 0.6mm	1.5mm 0.6mm
Operating mode	Light On, Dark On selectable				
Hysteresis	10% Max				
LED Indicator	Two - way, Green (Stable), Yellow (output)				
Light source	Red LED				
Supply voltage	DC10 - 30V incl. 10% ripple				
Conformity	JIS / C4525, CE, UL				
Power consumption	30mA Max				
Sensitivity adjustment	6 - turn trimmer				
Protection category	IEC, IP67				
Shock resistance	50G, XYZ directions				
Materials	PBT with glass (Case), PC (Lens)				
Timer	N / A		Available as option		N / A

Options

JCN-S : M8 Straight type



JCN-L : M8 L-shape type



Protective mounting brackets LS2-S01

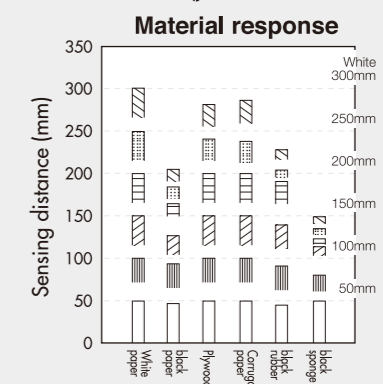
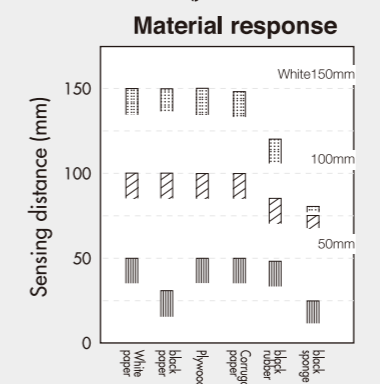
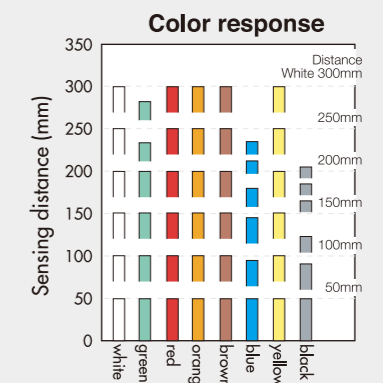
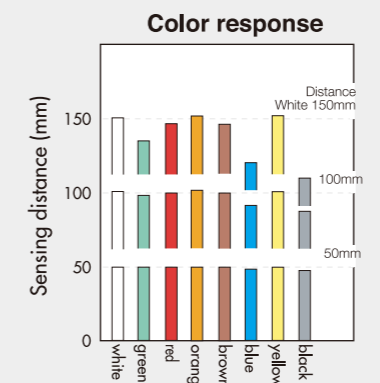
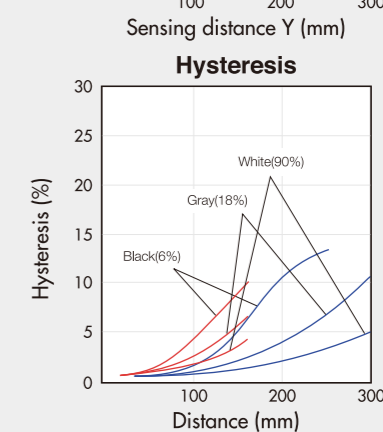
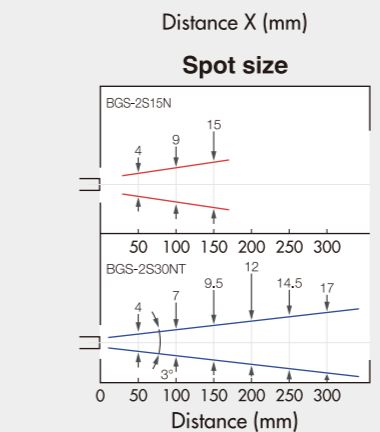
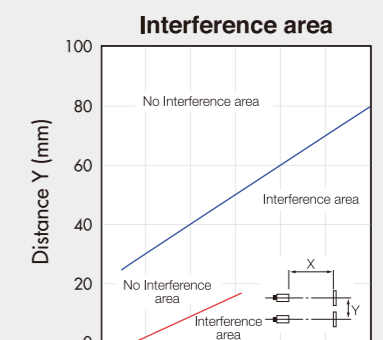
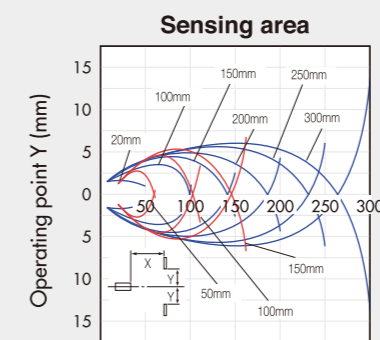


Sensor stand PLN-1

Fixture of Reflector PLN-1M



Reference (typical)





Easy Mount Photosensor Y series

Thru-beam type

(Sensing distance : 30m)
· YT-1180N / P / CN / CP / N-M12 / P-M12

Diffuse-reflective

(Sensing distance : 400mm)
· YD-15N / P / CN / CP / N-M12 / P-M12

Polarized Retro-reflective

(Sensing distance : 3.5m)
· YR-140N / P / CN / CP / N-M12 / P-M12

Retro - Glass

(Sensing distance : 1m)
· YR-Q39N / P / CN / CP / N-M12 / P-M12

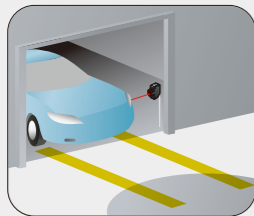
BGS

(Sensing distance : 200mm)
· BGS-Y8N / P / CN / CP / N-M12 / P-M12

→
Next page

- **Complete selection of sensing types including BGS and Transparent Object Detection.**
- **M18 Threaded Front Mounting.**
- **Stable Sensing Even For Plastic/Glass.**

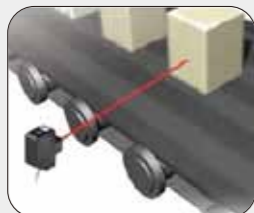
Applications



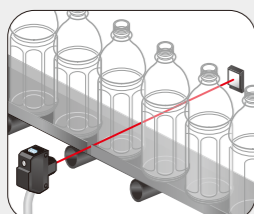
Verifying car position



For Detecting PWB



For Conveyor



For Beverage industry

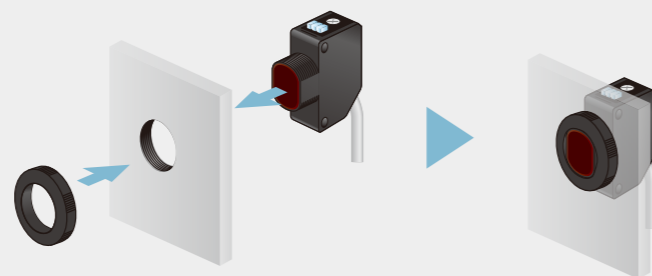
Features

Wide Selection

The Y series is offered with seven different models. Thru-beam, Diffuse, Retro-reflective, Transparent object detection, Convergent Beam (two types) and BGS (Background suppression). There is a model for use in almost any application.

M18 Threaded Front Mounting

The sensor can be easily mounted by inserting into an 18 mm opening. There are also conventional mounting holes in the sensor body for added flexibility.



Pig-tail Connector

M12 pig-tail type are available for easy maintenance.



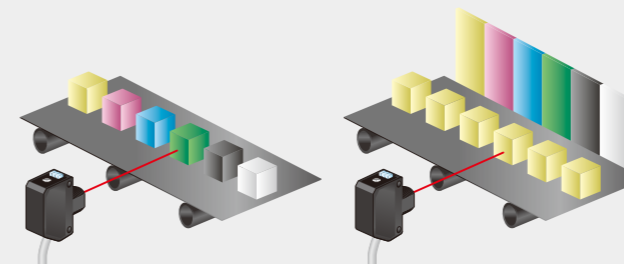
Rugged Waterproof Construction

The sensor has an IP67 rating. It is ideal for use in applications where it may be exposed to water spray.



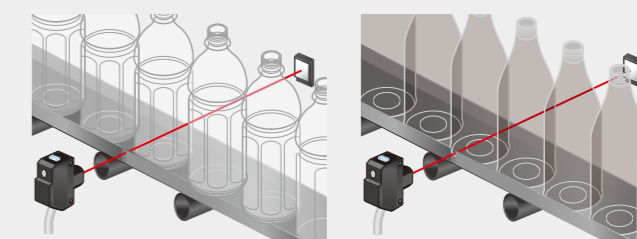
BGS Sensing

BGS (Background Suppression) sensors are not influenced by the color or texture of the target, the sensor is also able to ignore changes in the background.



Stable Sensing Even For Plastic/Glass

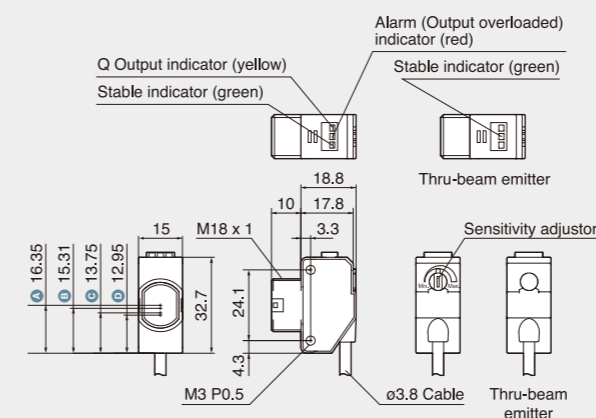
The YR-Q series was designed for the detection of transparent targets. These are ideally suited for clear plastic and glass bottle applications.



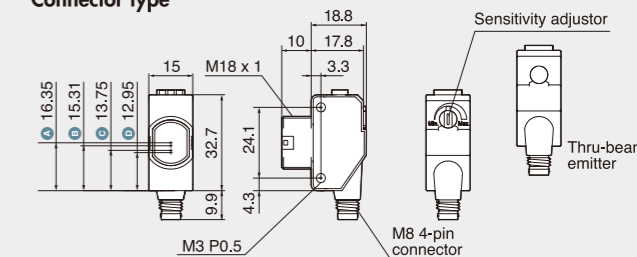
Dimensions

General Use Types except BGS

Cable type

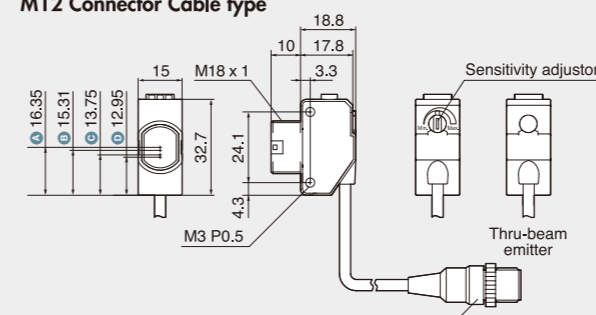


Connector type



<4 Pin configuration>
① DC10~30V
② Output D.O.
③ 0V
④ Output L.O.

M12 Connector Cable type



<4 Pin configuration>
① DC10~30V
② Output D.O.
③ 0V
④ Output L.O.

- A Thru-beam type
- B Convergent Beam short range type
- C Convergent Beam standard range type
- D Retro-reflective / Diffuse reflective type

(Unit : mm)

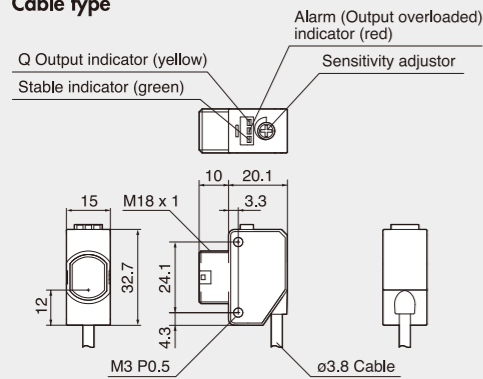
Convergent Beam close focus
(Sensing distance : 16mm)
· YD-L1N / P / CN / CP / N-M12 / P-M12

Convergent Beam regular focus
(Sensing distance : 43mm)
· YD-L2N / P / CN / CP / N-M12 / P-M12

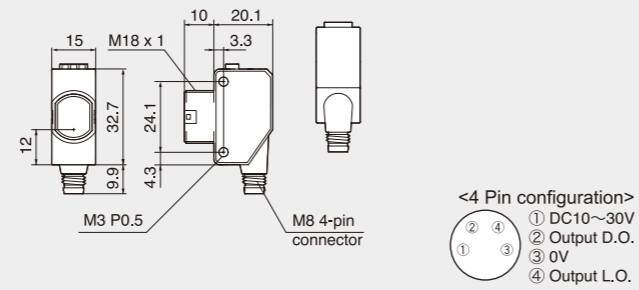
Dimensions

BGS Types

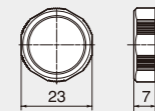
Cable type



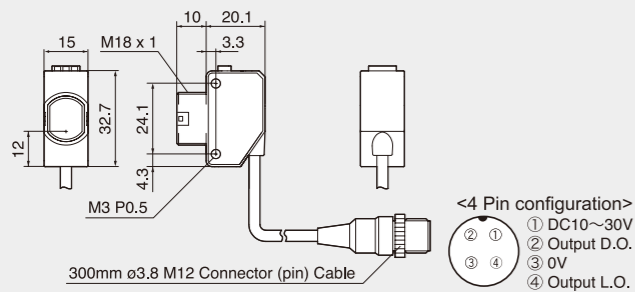
Connector type



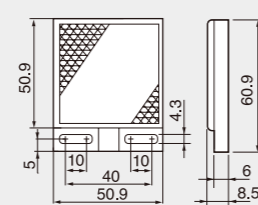
M18 x 1 Nut



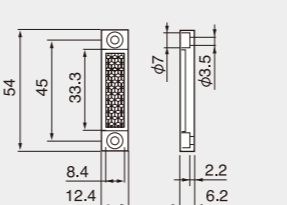
M12 Connector Cable type



V-61 for YR-140



P45A for YR-Q39



(Unit : mm)

Specifications

Model (NPN / PNP different model)	Thru-Beam	Diffuse reflective	Polarized Retro-reflective	Retro - Glass	Convergent Beam		BGS
					close focus	regular focus	
2 meter (approx. 78 inch) cable	YT-1180N / P	YD-15N / P	YR-140N / P	YR-Q39N / P	YD-L1N / P	YD-L2N / P	BGS-Y8N / P
M8 QD	YT-1180CN / CP	YD-15CN / 15CP	YR-140CN / CP	YR-Q39CN / CP	YD-L1CN / CP	YD-L2CN / CP	BGS-Y8CN / CP
M12 pig-tail	YT-1180N-M12 / P-M12	YD-15N-M12 / P-M12	YR-140N-M12 / P-M12	YR-Q39N-M12 / P-M12	YD-L1N-M12 / P-M12	YD-L2N-M12 / P-M12	BGS-Y8N-M12 / P-M12
Sensing distance	30m (1180 inch)	0.4m (15.7 inch)	3.5m (140 inch)	1m (39.3 inch) V-61 reflector P45A reflector	16mm (0.6 inch)	43mm (1.7 inch)	200mm (7.9 inch) Setting range : 30-200mm
Light source	Red LED (visible)						
Hysteresis	N/A	20% max.	N/A	N/A	10% max.	10% max.	5%
Response time	0.5msec						
LED Indicator	3 Indicators (green indicator only : Emitter of YT-480) Yellow: output Green: stable Red: alarm - overload						
Operating mode	Light ON and Dark ON outputs provided						
Sensitivity adjustment	1turn potentiometer						4 turn potentiometer
Control output	NPN or PNP open collector, 100mA max. / 30VDC						
Shock resistance	100G , xyz three directions						
Environmental illuminance	Sunlight : 10,000 lux, Incandescent lamp : 3,000 lux max						
Operating temp / humidity	-25°C to 55°C / 35 to 85% RH						
Storage temp / humidity	-40°C to 70°C / 35 to 90% RH						
Supply voltage	10 - 30VDC incl. 10% ripple						
Power consumption	emitter : 15mA max. 30mA max. receiver : 20mA max.						
Conformity	CE , JIS/C4525						
Circuit protection	Reverse polarity, transient voltages, Output overcurrent						
Material	ABS with 20% glass (case), PMMA (lens)						
Protection category	IEC 144, IP67						

Options

V-61 for YR-140



P45A for YR-Q39



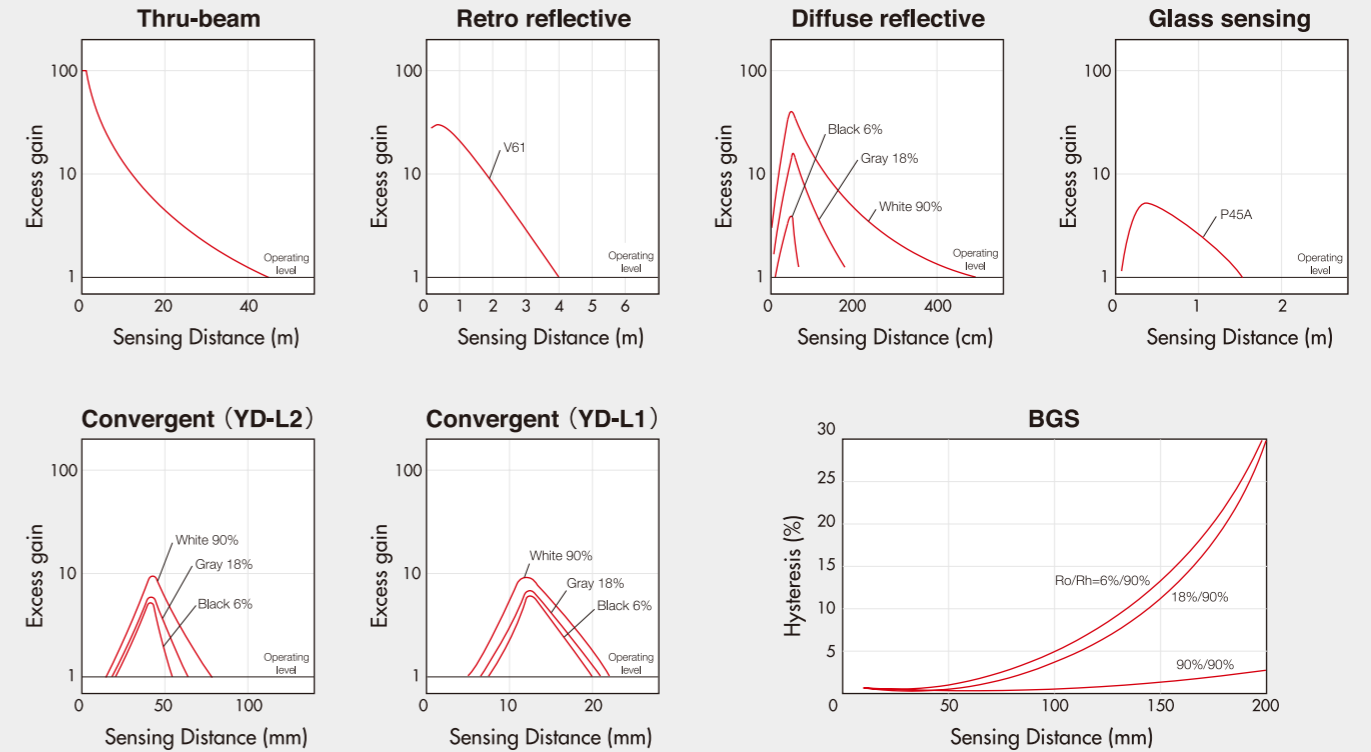
JCN-S : M8 Straight type

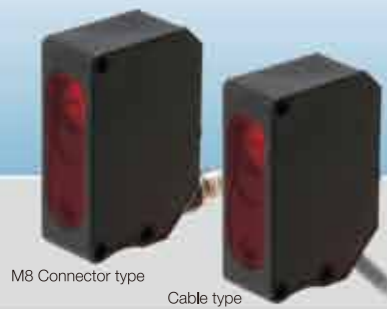


JCN-L : M8 L-shape type



Reference (typical)





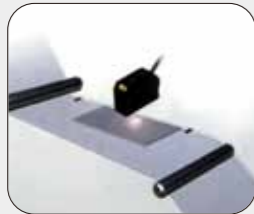
RGB Sensor for color sensing DM-18T series

DM-18T series

Mark / RGB color Type
(Sensing distance : 18±2mm)
· DM-18TN / TP / TCN / TCP

- **DM-18T series, RGB sensor with automatic LED selection control.**
- **Numerical display for easy setting**

Applications



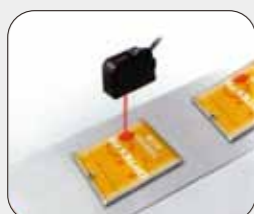
Registration mark on transparent film



Synchronizing sensor for vision sensor CVS



Color mark on laminate tube



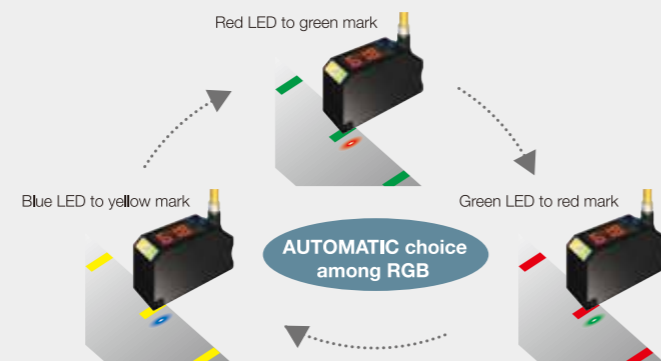
Mark on multicolored print

Two modes of operation are available, Mark Detection Mode and RGB Color Detection Mode.
The sensor can store up to 8 complete sets of parameters to reduce the setup time when changing products.

Features

Automatic Choice of RGB light source - Mark Detection mode

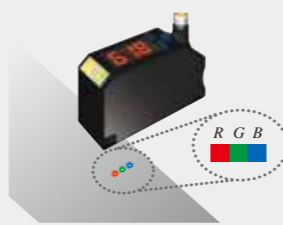
The DM-18T has a Red, Green and Blue LED light source built-in, the microcomputer will select the proper one to use according to the specific target color. When initially setting the sensor there is no need to perform this step.
The sensor monitors the contrast between the background and target, it is capable of sensing the difference between colors that used to be difficult to setup.



Color Mode

To select a specific color, a three color (RGB) LED element is used. The sensor computes the color ratio between the three colors. The accuracy of the color detection is assured even with products moving on a conveyor.

One sensor is able to operate in two modes, Mark Detection (Mark Mode) or Color Sensing (Color Mode)



Store up to 8 sets of parameters Color/Mark Sensor

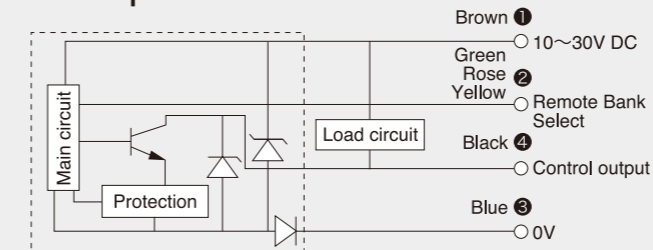
The DM-18T is able to store 8 complete sets of parameters (banks) for quick product changeover. The desired bank can be selected remotely via the three remote inputs.

Bank No.	Wire color		
	Green	Rose	Yellow
1	0	0	0
2	0	0	1
3	0	1	0
4	0	1	1
5	1	0	0
6	1	0	1
7	1	1	0
8	1	1	1

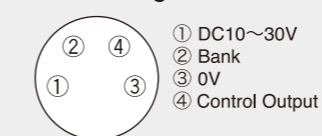
Remarks : 0 = Connect to +V, or leave open
1 = Connect to 0V

Circuit diagram

NPN output

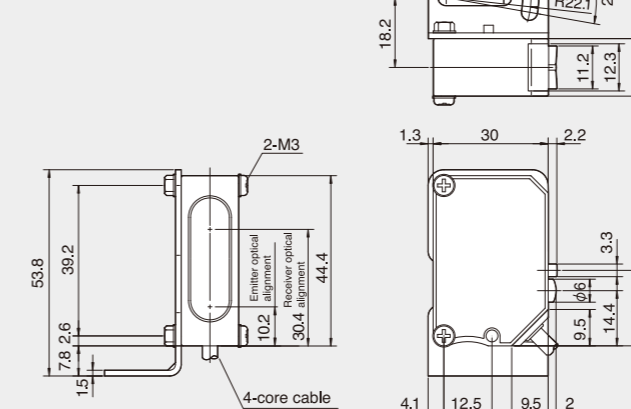


4 Pin configuration

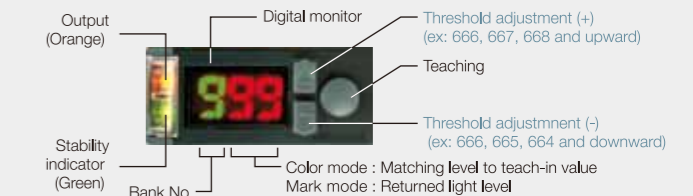


Dimensions

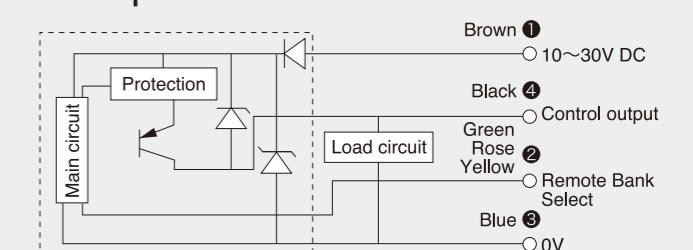
Cable type sensor with bracket



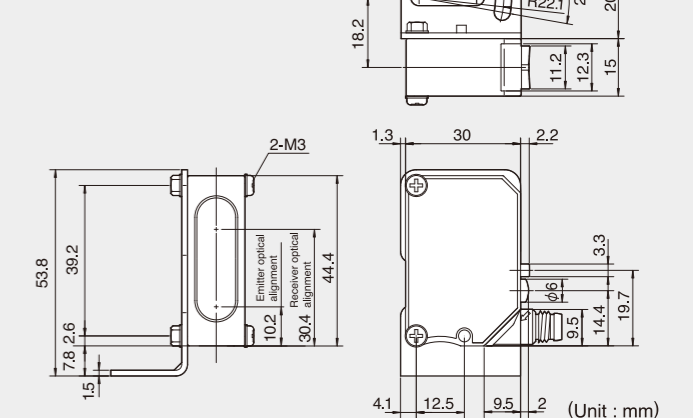
Pushbutton Teach with Fine Adjustment



PNP output



Connector type sensor with bracket



Specifications

Model	Mark / RGB Color type
Cable type	DM-18TN (or 18TP)
M8 connector type	DM-18TCN (or 18TCP)
Sensing distance	18 +/- 2mm
Spot size	1 X 6 mm/18mm
Range adjustment	Teach-in
Supply voltage	DC10-30V including 10% ripple (P-P)
Current consumption	35mA (12V), 25mA (24V)
Response time	Mark mode : H1/250s, H2/500s, L/1200s Color mode : H1/800s, H2/1600s, L/4000s
Timer	Off delay/On delay/One shot delay (10msec increment : 0-990msec, 1sec increment for 1-10 sec)
Light source	RGB LED
LED Indicator	Output indicator (orange), Stable detection (green)
Digital indicator	7 segment, 3 digit Red and Green LED
Control output	NPN or PNP open collector DC30V 100mA max
Operation mode	Light/Dark On selectable
Operating temp / humidity	-25 to 55 °C / 35-95% RH
Insulation resistance	20M Ohm or more (at 500V DC)
Protection category	IP67
Noise resistance	IEC, CE
Shock resistance	50G (500m/S ²) , XYZ 3 directions
Environmental illuminance	Sunlight : 10,000 lux, Incandescent lamp : 3,000 lux max
Material	Anti-bacterial ABS (housing), PMMA (lens)

Options

JCN-S : M8 Straight type



JCN-S : 2 meter
JCN-5S : 5 meter
JCN-10S : 10 meter

JCN-L : L-shape M8 type

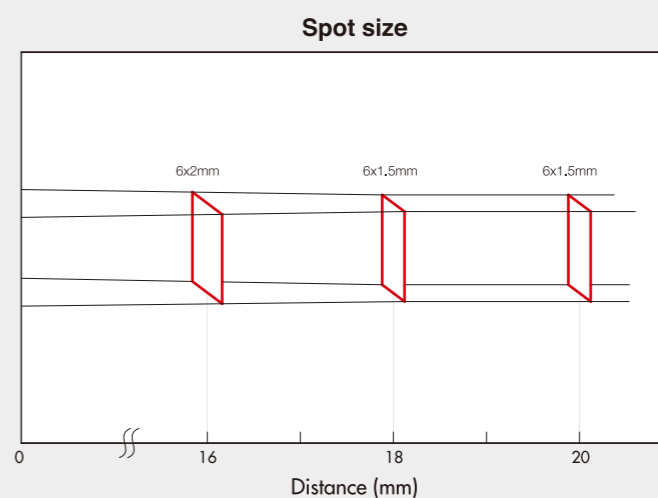
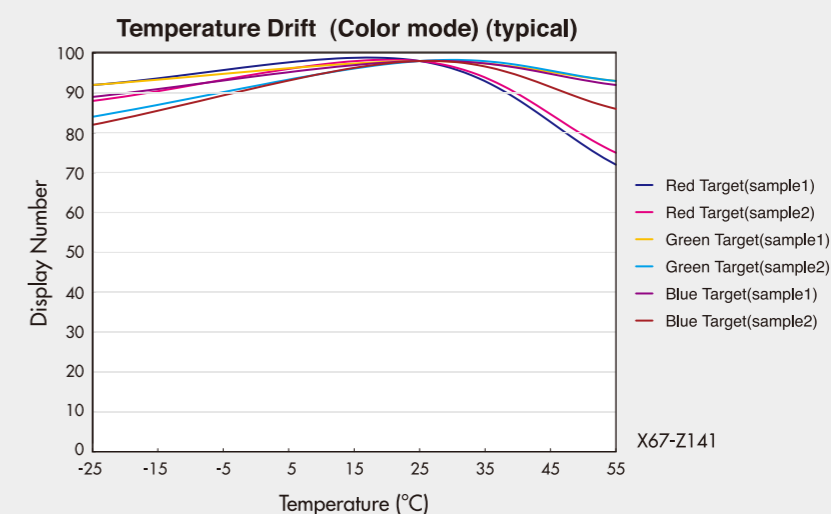
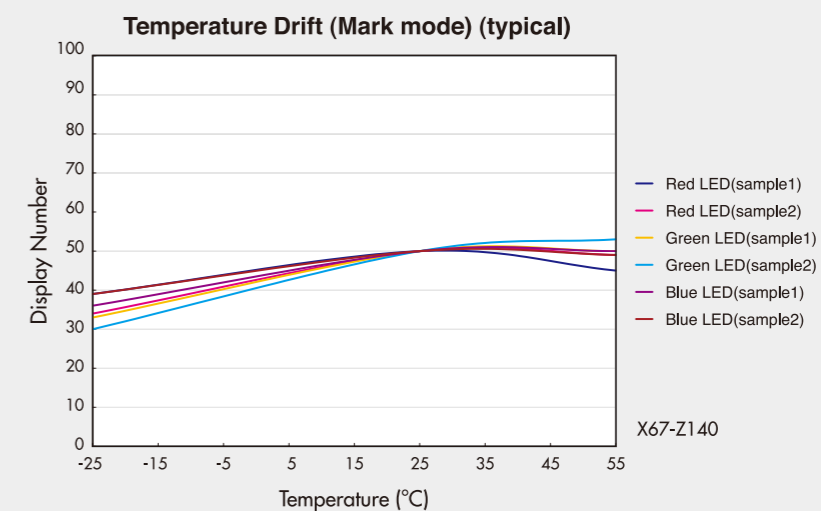


JCN-L : 2 meter
JCN-5L : 5 meter
JCN-10L : 10 meter

Reference (typical)



DM-18T



Accessory

C

E

J

J2

J3

V

V2

V3

V4

SR-Q

S

Z

BGS-Z

K

FGS-D

BGS-D

BGS-2S

Y

DM-18T

Accessory

PLN series
 • PLN-1
 • PLN-1M

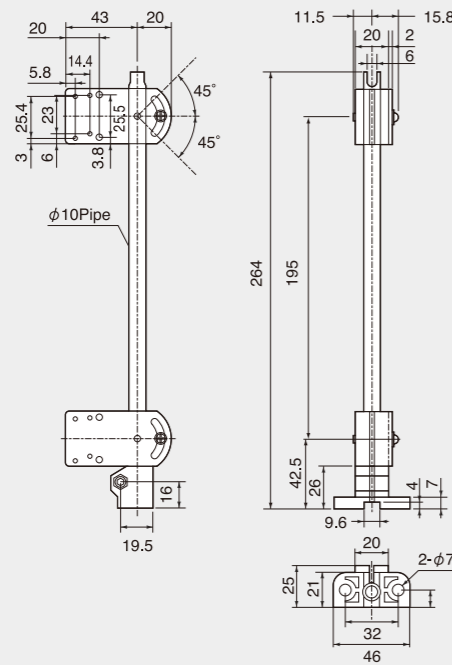
Handy Testor of Photosensors
 • BP-01FA



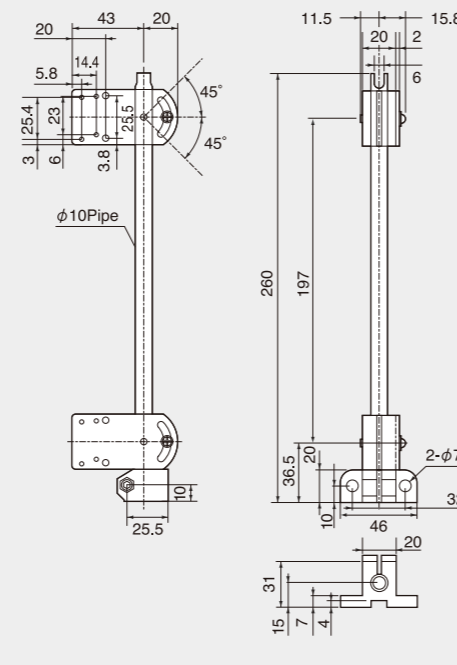
Sensor Stand PLN-1 / PLN-1M

Dimensions

PLN-1
(Floor Installation)

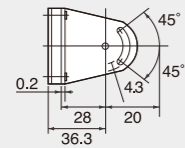


PLN-1
(Wall Installation)



Sensor stand PLN-1 is applicable to: **Z series, J series, S series, K series, J2 series, J3 series, Z-L series, SR-Q series, BGS-Z series, BGS-2S series**

PLN-1M
(Fixture of Reflector)



Fixture PLN-1M is applicable to: **V-61, V-42 and P250F**



Handy Testor of Photosensors BP-01FA

- **DC 18V Battery-driven Power Supply**
- **Universal NPN/PNP output**
- **Low battery alarm**
- **Handheld size**

C

E

J

J2

J3

V

V2

V3

V4

SR-Q

S

Z

BGS-Z

K

FGS-D

BGS-D

BGS-2S

Y

DM-18T

Accessory