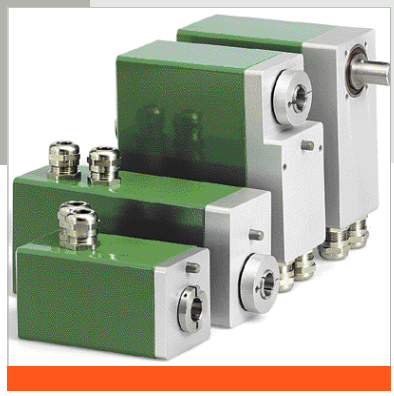
Position measurement & control



General catalogue

Position measurement & control

Lika Electronic has successfully developed solutions for the automation industry since **1982**, becoming a leading manufacturer of optical encoders, magnetic measurement systems and positioning units in Europe.
The export trend allows Lika to sell its products all over the world.
At present approximately 50% of the production volume is exported to foreign countries.

Lika's range includes the following product categories:

ROTAPULS: incremental encoders;
ROTACOD: absolute encoders;
ROTAMAG: magnetic encoders;
LINEPULS: linear and rotary magnetic measurement system;
LINECOD: absolute magnetic measurement system;
DRIVECOD: integrated positioning units;
POSICONTROL: displays & position controllers;
ACCESSORIES: couplings, fixing supports, draw-wire encoders...

Thanks to **flexible production**, Lika can realize customer specific requirements, focusing attention on performance and functionality.
This is achieved by performing all the research, design and production inside the company.

During these years Lika has developed strong know-how in:

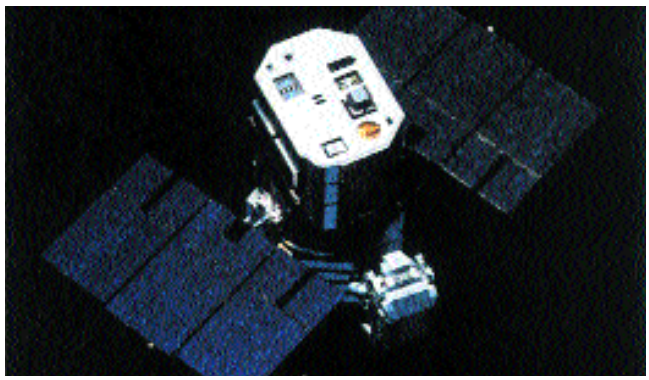
- Digital and analog electronic design;
- mechanical design;
- optical design;
- software development

Continuous research and innovation are part of daily activities.
Lika often works in conjunction with the most prestigious Italian Universities and accredited Institutes, establishing permanent and productive relationships.

In cooperation with the CISAS (Interdepartmental Centre of Space Studies and Activities) of Padua, Lika is involved in the **worldwide space project**, the ROSETTA-ESA mission.

A particular model of incremental encoder has been developed by Lika and employed in the mechanism of the WAC and NAC telescopes forming the OSIRIS payload in the ROSETTA-ESA mission.
The ROSETTA-ESA mission, started on March 2nd 2004 with the launch of Ariane 5 and will last twelve years.

During this period, the rocket will travel **450 million kilometers**.
ROSETTA has the scope to reveal some secrets of the solar system and to study the origins of earth and the universe.



Typical application fields of Lika products are:

- Woodworking machinery;
- lift and hoists;
- packaging machines;
- machines tools

Lika has been **ISO 9001 certified** since 1997.

ROTAPULS
Optical incremental encoders

LINEPULS
Linear and rotary magnetic measurement system

DRIVECOD
Integrated positioning units

ROTACOD
Optical absolute encoders

LINECOD
Absolute magnetic measurement system

POSICONTROL
Displays & position controllers

ROTAMAG
Magnetic encoders

...about Lika

2005 Project in cooperation with Padua University for the development of a measurement system based on laser technology.

2004 Rosetta project: the satellite with Lika's encoders has been launched.
Compliant with ISO 9001:2000 certification.

2003 Lika obtains the **Q PLUS (Q+)** certification.

2002 Production in antistatic environment (ESD).
Reorganization of NC department and introduction of DRIVECOD & POSICONTROL product range.

2001 Foundation of *Lika Germany* branch.
LINEPULS range.

2000 Start of **ROSETTA project** in cooperation with CISAS.

1999 Lika Electronic moves to Carrè (VI), in the new and expanded headquarters.

1998 Introduction of the numerical control department.

1997 Lika obtains the **ISO 9001:1994** certification.
First single-turn absolute encoder with 16 bit resolution developed for aerostatic probes of Florence University.

1996 ROTACAM ASR58: absolute encoder with integrated cam programmer.

1993 The range of encoders with 58 mm diameter is completed.

1991 Foundation of Lika Trading.

1987 Introduction of EP cam programmer.
Lika manufactures the **smallest absolute encoder** in Europe, with a diameter of 50 mm.

1986 Production of absolute encoders with integrated display and incremental encoders for Italian market.

1985 Lika starts the production of absolute encoders for the German market.

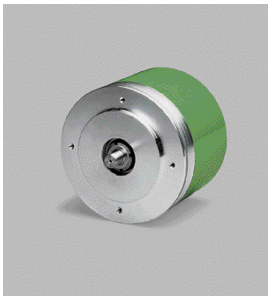
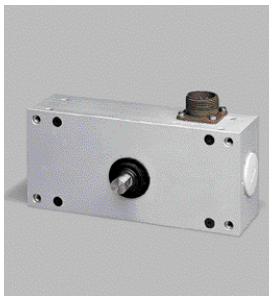
1982 Lika Electronic founded in Schio (VI), Italy.

ROTAPULS incremental encoders



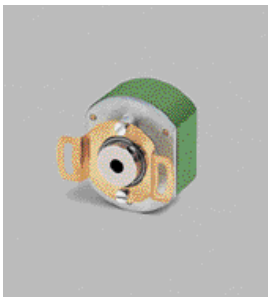

Series	I28	I40 • I41	I58S • I58 • I58A • I58V	IT65 • I65
Features			standard size, sin/cos	standard size
Housing ø (mm)	28	40	58	65
Shaft ø (mm)	4, 5	4, 6, 6.35, 8	6, 8, 9.52, 10, 12	6, 8, 9.52, 10, 12
Connections	•	•	•	•
			•	•
Resolution (PPR)	1024 max.	3600 max.	10000 max.	10000 max.
Output frequency (kHz)	100 max.	100 max.	300 max.	300 max.
Output circuits	Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit, 1Vpp, 11µApp	NPN, Push-Pull, Line Driver, Universal circuit
Operating temperature	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP54	IP54	IP65 max.	IP66 max.

ROTAPULS incremental encoders


Series	XC77	I105	ICS	CK46
Features	ATEX	high resolution	spring loaded shaft	
Housing ø (mm)	77	105	172 x 80 x 53	46
Shaft ø (mm)	14	10	12	6, 6.35
Connections	•	•		•
		•	•	
Resolution (PPR)	10000 max.	18000 max.	1068 max.	3600 max.
Output frequency (kHz)	300 max.	300 max.	60	60
Output circuits	NPN, Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit
Operating temperature	-20°C +40°C (-4°F +104°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP66	IP65 max.	IP65 max.	IP65 max.

ROTAPULS incremental encoders

				
Series	**C50**	**CB50**	**CB59**	**C59 • C60 • C58**
Features	for motor applications	feedback encoder for brushless motors	for servo motors	
Housing ø (mm)	50	50	58	58
Shaft ø (mm)	6, 6.35, 8, 9.52, 10	6, 6.35, 8, 9.52, 10	14, 15	14, 15
Connections	•	•	•	•
Resolution (PPR)	2500 max.	2500/8 poles max.	2048 / 1 sin/cos	1024 PPR max.
Output frequency (kHz)	100	200	200	60
Output circuits	NPN, Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, U, V, W signals	1 Vpp + Z track	Push-Pull, Line Driver, Universal circuit
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-20°C +100°C (-4°F +212°F)	-20°C +100°C (-4°F +212°F)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP65 max.	IP20	IP40	IP65 max.

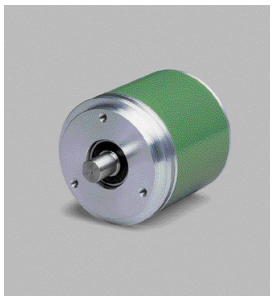
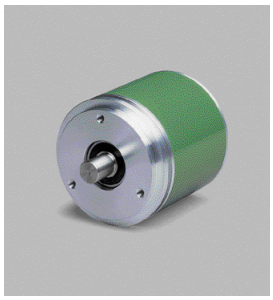
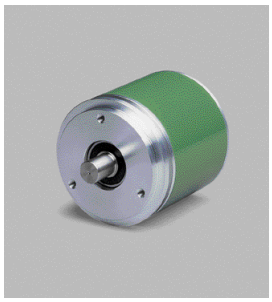
ROTAPULS incremental encoders

				
Series	**C58R • C58A**	**CK59 • CK60 • CK58**	**CK61**	**C80 • C81**
Features		standard size heavy duty	motor feedback	for lift motors
Housing ø (mm)	58	58	58	80
Shaft ø (mm)	14, 15	14, 15	10, 12	6 ÷ 43,97
Connections	•	•	•	•
		•	•	
Resolution (PPR)	5000 max.	10000 max.	5000 max.	4096 max.
Output frequency (kHz)	300 max.	300 max.	300 max.	200 max.
Output circuits	Push-Pull, Line Driver, Universal circuit	NPN, Push-Pull, Line Driver, Universal circuit, 1Vpp	Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, Universal circuit, 1Vpp
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP65 max.	IP65 max.	IP65 max.	IP65 max.

ROTACOD absolute encoders

				
Series	**ASC58 • AS58 • AS58S**	**ASx58x sin/cos**	**AST6**	**XAC77**
Features	standard size	motor feedback	US size	ATEX
Housing ø (mm)	58	58	65	77
Shaft ø (mm)	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12	14
Connections	•	•	•	•
	•	•	•	
Resolution	16 bit max.	16 bit + 1024 sin/cos	16 bit max.	16 x 14 bit max.
Output circuits	NPN, Push-Pull, SSI	SSI + 1 Vpp	NPN, Push-Pull, SSI	NPN, Push-Pull, SSI
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)	-20°C +40°C (-4°F +104°F)
Protection	IP65	IP65	IP66 max.	IP66

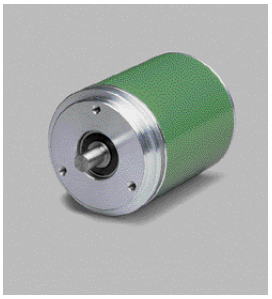
ROTACOD absolute encoders

				
Series	**ASR58**	**AS58A • AM58A**	**AS58 ISI • AM58 ISI**	**AS5 • AM5**
Features	integrated cam programmer	analogue output	incremental serial interface	
Housing ø (mm)	58	58	58	51
Shaft ø (mm)	6, 8, 9.52, 10, 12	6, 8, 10, 12	6, 8, 9.52, 10, 12	6, 8, 10, 12
Connections				•
	•	•	•	
Resolution	3600/0,1°	16 bit max.	2048 PPR, 2048 PPR x 4096 rev	11 bit, 11 x 8 bit max.
Output circuits	16 x on/off, 100mA	0-5V, 0-10V, 4-20mA	ISI (Incremental serial interface)	NPN, Push-Pull
Operating temperature	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)
Protection	IP65	IP65	IP65	IP65

ROTACOD absolute encoders

lika






Series	AMC58 • AM58 • AM58S	AMx58x sin/cos	AMx58x P	AMC9 • AM9
Features	standard size	for motor feedback	programmable	low profile
Housing ø (mm)	58	58	58	88
Shaft ø (mm)	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12	10, 15
Connections	•	•	•	
	•	•	•	•
Resolution	16 bit, 16 x 14 bit max.	16 x 14 bit + 1024 sin/cos	13 x 12 bit max.	13 x 12 bit max.
Output circuits	NPN, Push-Pull, SSI	SSI + 1 Vpp	NPN, Push-Pull, SSI	SSI
Operating temperature	-40°C +100°C max. (-40°F +212°F max.)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-40°C +100°C max. (-40°F +212°F max.)
Protection	IP65	IP65	IP65	IP65

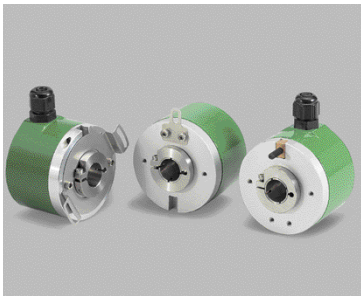
ROTACOD absolute encoders

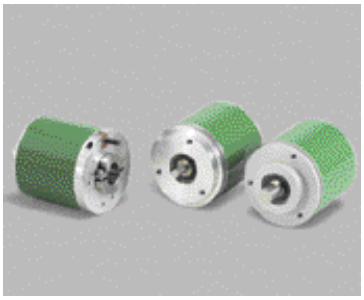
lika




Series	Ax58x PB	Ax58x IB	Ax58x FD	Ax58x CB
Features	Profibus DP	Interbus-S	DeviceNet	CANopen
Housing ø (mm)	58	58	58	58
Shaft ø (mm)	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15	6, 8, 9.52, 10, 12, 14, 15
Connections	Connection cap with PG or connectors		Connection cap with PG or connectors	Connection cap with PG or connectors
		•		
Resolution	16 bit, 16 x 14 bit max.	16 bit, 16 x 14 bit max.	16 bit, 16 x 14 bit max.	16 bit, 16 x 14 bit max.
Output circuits	ProfiBus DP	Interbus-S	DeviceNet	CANopen
Operating temperature	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)	-20°C +70°C (-4°F +158°F)
Protection	IP65	IP65	IP65	IP65

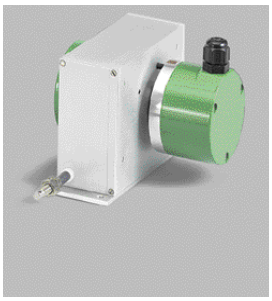
ROTAMAG magnetic encoders

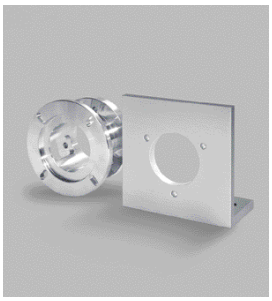


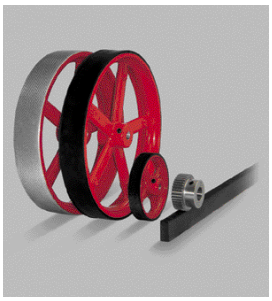


Series	MI58S • MI58	MC59 • MC60 • MC58	MAC58 • MA58 • MA58S
Features	incremental magnetic	incremental magnetic	absolute magnetic
Housing ø (mm)	58	58	58
Shaft ø (mm)	6, 8, 9.52, 10, 12	14, 15	6, 8, 9.52, 10, 12, 14, 15
Connections	•	•	•
	•	•	•
Resolution (PPR)	10000 max.	10000 max.	12 bit x 16 bit max.
Output circuits	Push-Pull, Line Driver, Universal circuit	Push-Pull, Line Driver, Universal circuit	SSI, BISS
Operating temperature	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67 max.	IP67 max.	IP67 max.

Accessories



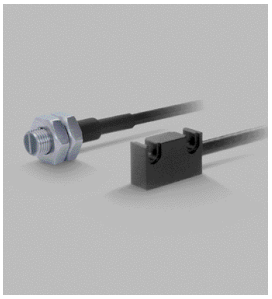
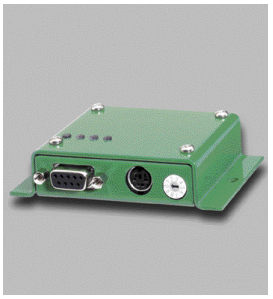




Series	SF • SFMx	PAN/PGF	LKM-xxx	RM-xxxx
Features	**Draw wire support**	**Couplings**	**Brackets, flanges**	**Metric wheels**
	• With encoder or potentiometer • Measuring length 5000 mm or 6800 mm (series SF) • Measuring length 1000 mm or 1500 mm (series SFMx)	• Flexible or rigid • Zero backlash • Electrical insulation • High torque • Steel versions • Keyway	• Mounting brackets • Mounting bells • Adapting flanges • Fixing accessories • Connectors • Connection cables	• 200 or 500 mm circumference • Rubber or metal surface • Integrated encoders (IR65) available • Racks & pinions available

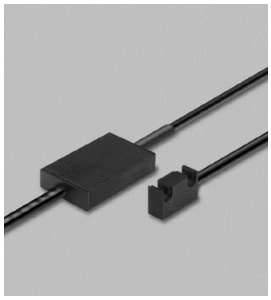
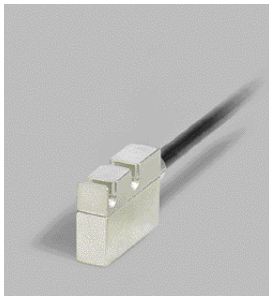
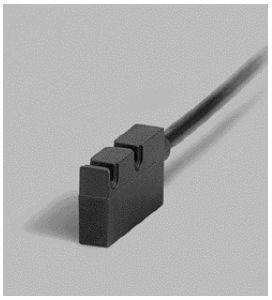
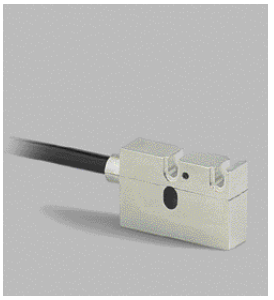
LINEPULS Magnetic measurement system



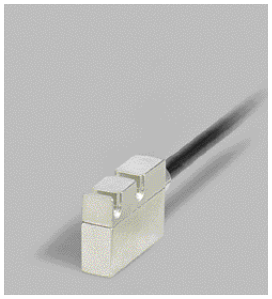
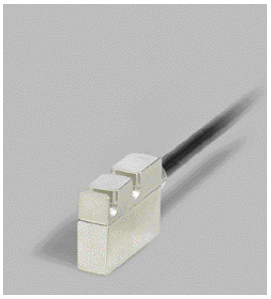
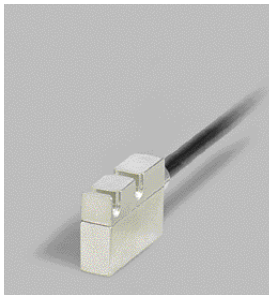
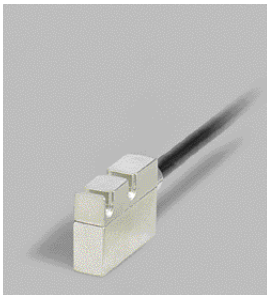
Series	MT • MTS	MRI	SMx-C • SMx-R	EBOX
Features	magnetic tape	magnetic rings	passive sensors	electronic converter
Dimensions (mm)	10 mm/5 mm x 100 m max.	-	25 x 15 x 8,5 / M10 x 30	90 x 20 x 55
Connections	-	-		
	-	-	•	•
Resolution	-	-	depending on EBOX or display	10 µm max. (programmable)
Output circuits	-	-		Push-Pull, Line Driver
Operating temperature	-40°C +120°C (-40°F +248°F)	-40°C +120°C max. (-40°F +248°F max.)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67	IP40

LINEPULS Magnetic measurement system

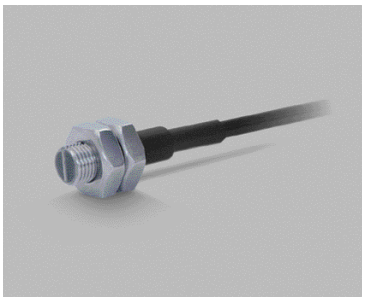
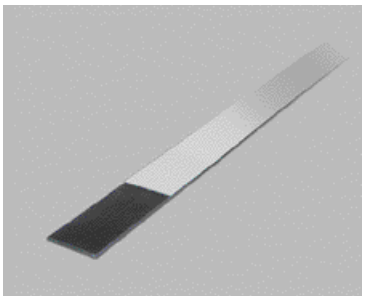
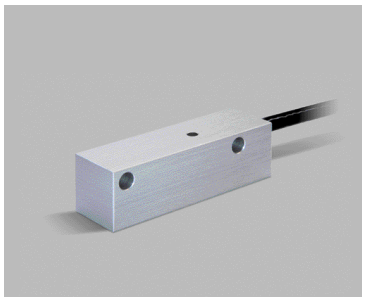
Series	SMBx	SME5	SME2	SME1
Features	separate converter	standard sensor	standard sensor	high resolution
Dimensions (mm)	25 x 15 x 8,5 49 x 30 x 10	40 x 25 x 10	40 x 25 x 10	40 x 25 x 10
Connections	•	•	•	•
Resolution	5 µm max.	5 µm max.	2 µm max.	0,5 µm max.
Travel speed	16 m/s max.	16 m/s max.	16 m/s max.	16 m/s max.
Output circuits	Push-Pull, Line Driver	Push-Pull, Line Driver	Push-Pull, Line Driver	Push-Pull, Line Driver
Operating temperature	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67	IP67

LINEPULS Magnetic measurement system

Series	SHD1 • SHD2 • SHD5	SMK	SML • SMH	SMS
Features	for linear motors	standard sensor	standard sensor	sin/cos
Dimensions (mm)	40 x 25 x 10	40 x 25 x 10	40 x 25 x 10	40 x 25 x 10
Connections	•	•	•	•
Resolution	1 µm max.	10 µm max.	100 µm max.	1 mm pole pitch
Travel speed	16 m/s max.	2,5 m/s max.	10 m/s max.	16 m/s max.
Output circuits	Push-Pull, Line Driver	Push-Pull, Line Driver	Push-Pull, Line Driver	1 Vpp
Operating temperature	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67	IP67

LINEPULS • LINECOD Absolute magnetic system

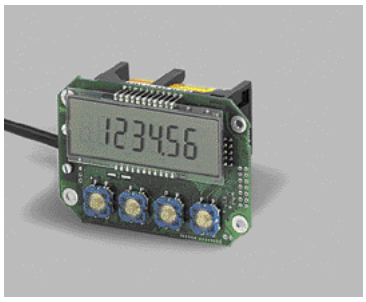




Series	SMXx	MTA	SMA
Features	bidirectional sensor	absolute coded tape	integrated absolute sensor
Dimensions (mm)	M10 x 30	20 mm x 5.1 m max.	65 x 20 x 20
Connections	•	-	•
		-	
Resolution	5 mm (1.25), 2 mm (0.5)	-	5 µm max.
Travel speed	7,5 kHz max.	-	5 m/s max.
Output circuits	Universal circuit	-	SSI
Operating temperature	-10°C +70°C (14°F +158°F)	-40°C +120°C (-40°F +248°F)	-25°C +85°C (-13°F +185°F)
Protection	IP67	IP67	IP67

LINEPULS Magnetic measurement system

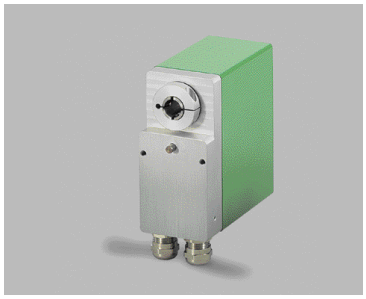
Series	LD120	LD112	LD140 • LD142
Features	LED display	small battery display	battery display
Display	LED 5 digit	LCD 6 digit	LCD 7 digit
Display mode	linear, angular, mm/inch	linear, angular, mm/inch	linear, angular, mm/inch
Dimensions (mm)	72 x 36 x 62	72 x 48 x 31	96 x 72 x 47
Input	magnetic sensor	magnetic sensor	magnetic sensor
Travel speed	< 10 m/s	< 5 m/s	< 5 m/s
Power supply	+10 +30 Vdc	battery	battery
Interface	RS485	-	RS232
Output	-	-	-

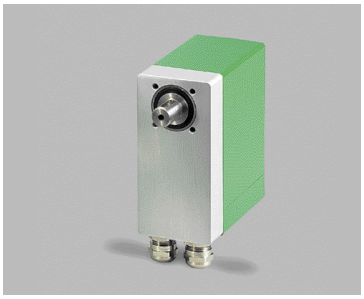
LINEPULS Magnetic measurement system

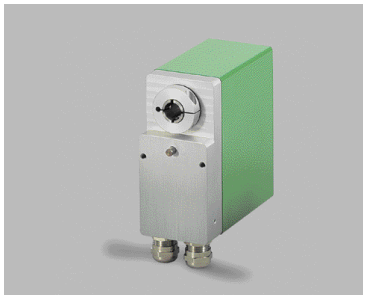


Series	LD111	LD141	
Features	small OEM battery display	OEM battery display	
Display	LCD 6 digit	LCD 7 digit	
Display mode	linear, angular, mm/inch	linear, angular, mm/inch	
Dimensions (mm)	61 x 39 x 23	87 x 60,5 x 47	
Input	magnetic sensor	magnetic sensor	
Travel speed	< 5 m/s	< 5 m/s	
Power supply	battery	battery	
Interface	-	RS232	
Output	-	-	

DRIVECOD Positioning units

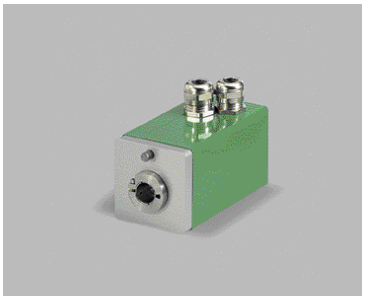


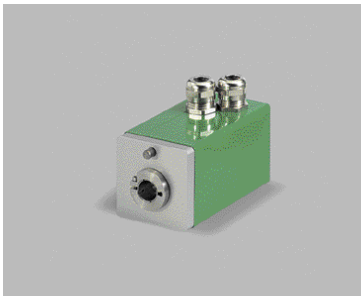


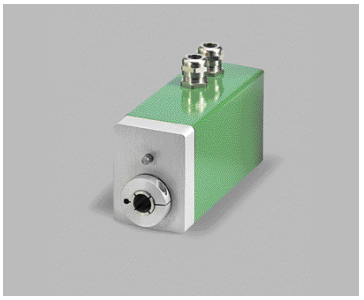


Series	RD1	RD11	RD12
Features	positioning unit	positioning unit	with integrated brake
Dimensions (mm)	58 x 124 x 122	58 x 124 x 122	58 x 124 x 150
Shaft ø (mm)	14	15	14
Shaft rotational speed	240 rpm max.	240 rpm max.	240 rpm max.
Torque	5 Nm max.	5 Nm max.	5 Nm max.
Power supply	24 Vdc	24 Vdc	24 Vdc
Interface	RS485, CANopen, Profibus	RS485, CANopen, Profibus	RS485, CANopen, Profibus
Encoder	incremental absolute	incremental absolute	absolute

DRIVECOD Positioning units







Series	RD2	RD22	RD3
Features	positioning unit	with integrated brake	positioning unit
Dimensions (mm)	56 x 56 x 104	56 x 56 x 140	56 x 75 x 158
Shaft ø (mm)	14	14	14
Shaft rotational speed	110 rpm max.	110 rpm max.	240 rpm max.
Torque	1,6 Nm max.	1,6 Nm max.	5 Nm max.
Power supply	24 Vdc	24 Vdc	24 Vdc
Interface	RS485, CANopen, Profibus	RS485, CANopen, Profibus	RS485, CANopen, Profibus
Encoder	absolute	absolute	absolute

POSICONTROL Displays & Position controllers




Series	PS600	TE600	PV1	LD200
Features	position controller	RDxx CANbus terminal	4 axis DRO	universal display
Display	LCD	LCD	LCD	LED 8 digit
Display mode	position, parameters	RDxx status, parameters	linear, mm/inch	linear, angular, mm/inch
Dimensions (mm)	120 x 154 x 34	120 x 154 x 34	280 x 110 x 35	96 x 48 x 69
Input	AB, CAN	CAN	4 x AB0	AB0, 1Vpp, SSI, magnetic sensor
Counting frequency	20 kHz max.	-	2 MHz max.	500 kHz max.
Power supply	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Interface	RS232, CAN	RS232, CAN	RS232	RS232, CAN
Output	8 x 24 V @ 500 mA	-	4 x ±10 V 12 x 24 V @ 500 mA	3 x 24 V @ 50 mA

POSICONTROL Displays & Position controllers



Series	MC150	MC111	MC221
Features	position display	position display	2 axis display
Display	LED 6 digit	LED 6 digit	2 x LED 6 digit
Display mode	linear, angular	linear, angular	linear, angular
Dimensions (mm)	96 x 72 x 71	96 x 72 x 60	96 x 96 x 72
Input	AB0, SSI	AB, Analogue	2 x AB
Counting frequency	330 kHz max.	25 kHz max.	90 kHz max.
Power supply	24 Vdc/Vac 115 Vac, 230 Vac	24 Vdc	24 Vdc/Vac 115 Vac, 230 Vac
Interface	RS232	-	RS232
Output	2 x 24 V @ 600 mA	2 x 24 V @ 600 mA	2 x 24 V @ 600 mA

NOTES

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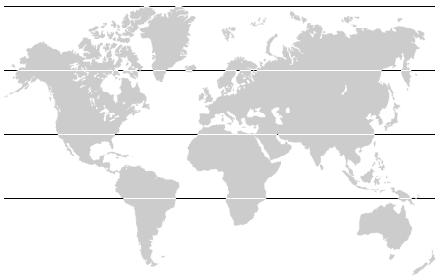
Lika Electronic is present in the following countries:



Argentina	Lithuania
Australia	Mexico
Austria	Netherlands
Belarus	Norway
Belgium	Poland
Brazil	Portugal
Canada	Russia
China	Singapore
Czech Republic	Slovakia
Denmark	South Africa
Estonia	South Korea
Finland	Spain
France	Sweden
Germany	Switzerland
Greece	Taiwan
Hong-Kong	Thailand
India	Turkey
Iran	United Kingdom
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