



PMI operator terminals®

pilz
more than automation
safe automation

Diagnostic and operator terminals "Made in Germany"

Professional diagnostics and visualisation.

▶ Support

Technical help round the clock!

Technical support is available from Pilz round the clock. This service is provided free of charge beyond standard business hours.

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► Business activities

Excellent Components

Sensor technology	<ul style="list-style-type: none"> ▶ Safety switches ▶ Safety bolts ▶ Optoelectronic protective devices ▶ Safe camera systems 	
Control and communication	<ul style="list-style-type: none"> ▶ Electronic monitoring relays ▶ Safety relays ▶ Programmable safety and control systems ▶ Industrial communication 	
Motion Control	<ul style="list-style-type: none"> ▶ Control systems ▶ Servo amplifiers ▶ Motors 	
Operating and monitoring	<ul style="list-style-type: none"> ▶ Control and signal devices ▶ Operator terminals 	
Software	<ul style="list-style-type: none"> ▶ System software ▶ User software ▶ Software tools 	

Professional Services

Consulting and Engineering	<ul style="list-style-type: none"> ▶ Plant assessment ▶ Risk assessment ▶ Safety concept ▶ CE services ▶ Inspection of ESPE ▶ Safety design ▶ Safety sign-off 	
Training	<ul style="list-style-type: none"> ▶ Seminars ▶ Courses 	



► Why does Pilz offer more?

Because the integrity of our business activities is what sets us apart.



Pilz is a solution supplier for all automation functions. Including standard control functions. Developments from Pilz protect man, machine and the environment. That's why all our experience and knowledge goes into individual products as well as consistently sophisticated system solutions.

- ▶ Sensor technology
- ▶ Control and communication
- ▶ Motion Control
- ▶ Operating and monitoring
- ▶ Software
- ▶ Consulting and engineering
- ▶ Training

Appropriate services relating to individual components and independent generic services guarantee that our customers obtain customised automation solutions, all from one source.

Pilz is a family business that's closer to its customers.

Pilz has a tradition as a family-run company stretching back over 50 years. Real proximity to customers is visible in all areas, instilling confidence through individual consultation, flexibility and reliable service.

We are your contact, guide and competency leader en route to an optimum automation solution.



Contents

▶ Pilz product areas	4
▶ PMI operator terminals	
- Product group.....	6
- Applications and industries	7
- Benefits at a glance	7
- Selection guide	8
▶ PVIS diagnostic concept.....	10
- Benefits at a glance	13
▶ Diagnostic unit PMImicro diag	
- Product features	14
- Benefits at a glance	15
- Technical details	16
▶ Diagnostic software PVIS OPC Tools	
- Product features	18
▶ PMIvisu operator terminals	
- Product features	20
- Benefits at a glance	21
- Technical details	22
▶ PMIopen operator terminals	
- Product features	24
- Benefits at a glance	25
- Technical details	26

Professional and simple

Systems for process visualisation and interaction between man and machine form the link between operator and machine. When an error occurs, diagnostics on the plant and machinery play a special role. Good visualisation and diagnostics also mean shorter downtimes and therefore increased cost effectiveness.

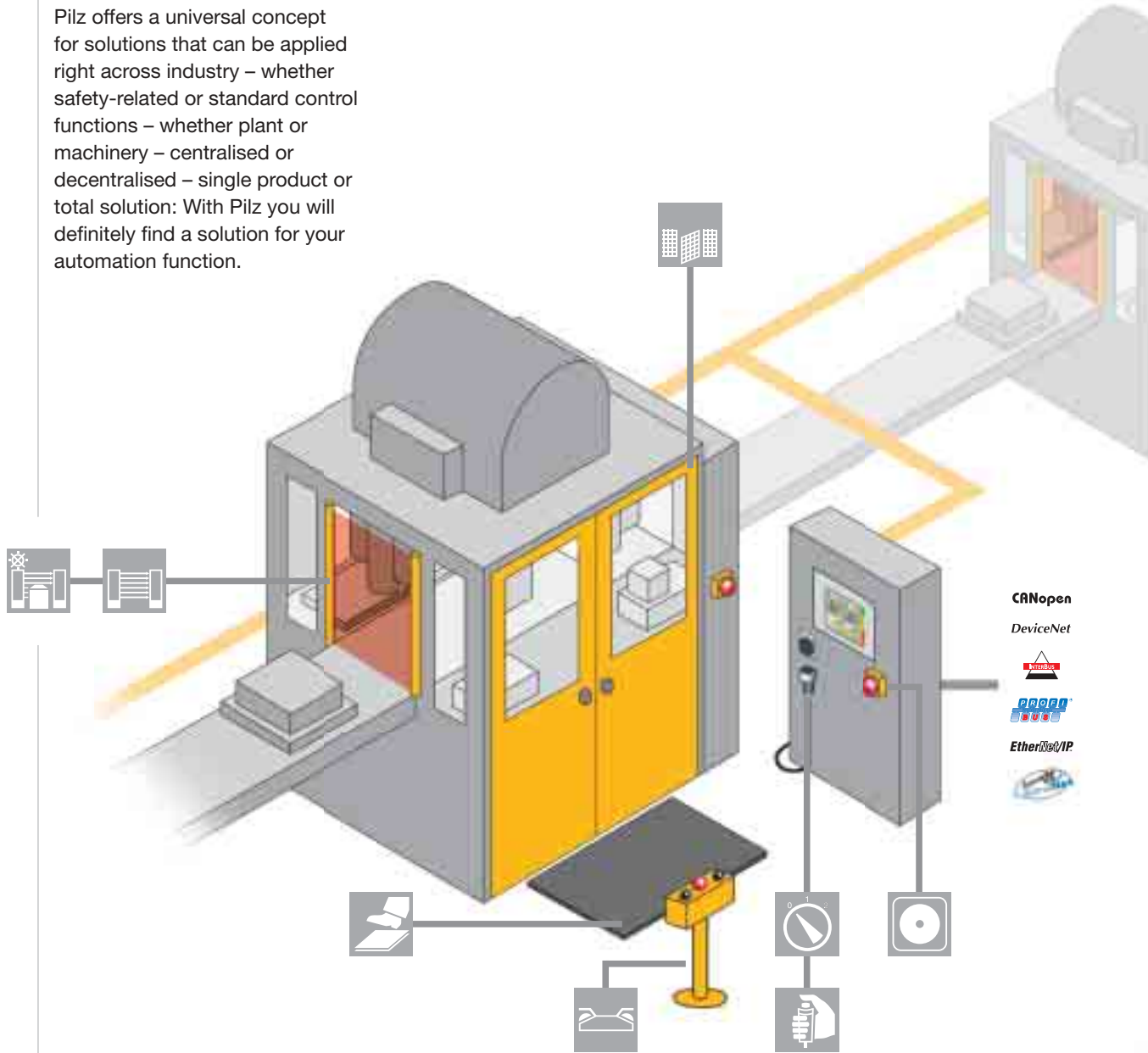
From the diagnostic unit PMImicro diag through to the powerful touchscreen operator terminals PMIvisu and PMIopen, Pilz offers complete customised solutions to meet your requirements.

A sophisticated concept developed from practice is the basis of good diagnostics. At Pilz we call it PVIS for short. It's a universal diagnostic concept for small machines to large plants.



► Solution suppliers for safety and standard

Pilz offers a universal concept for solutions that can be applied right across industry – whether safety-related or standard control functions – whether plant or machinery – centralised or decentralised – single product or total solution: With Pilz you will definitely find a solution for your automation function.



Sensor technology

Operating and monitoring

Electronic monitoring relays
PMDsrange

Motion control



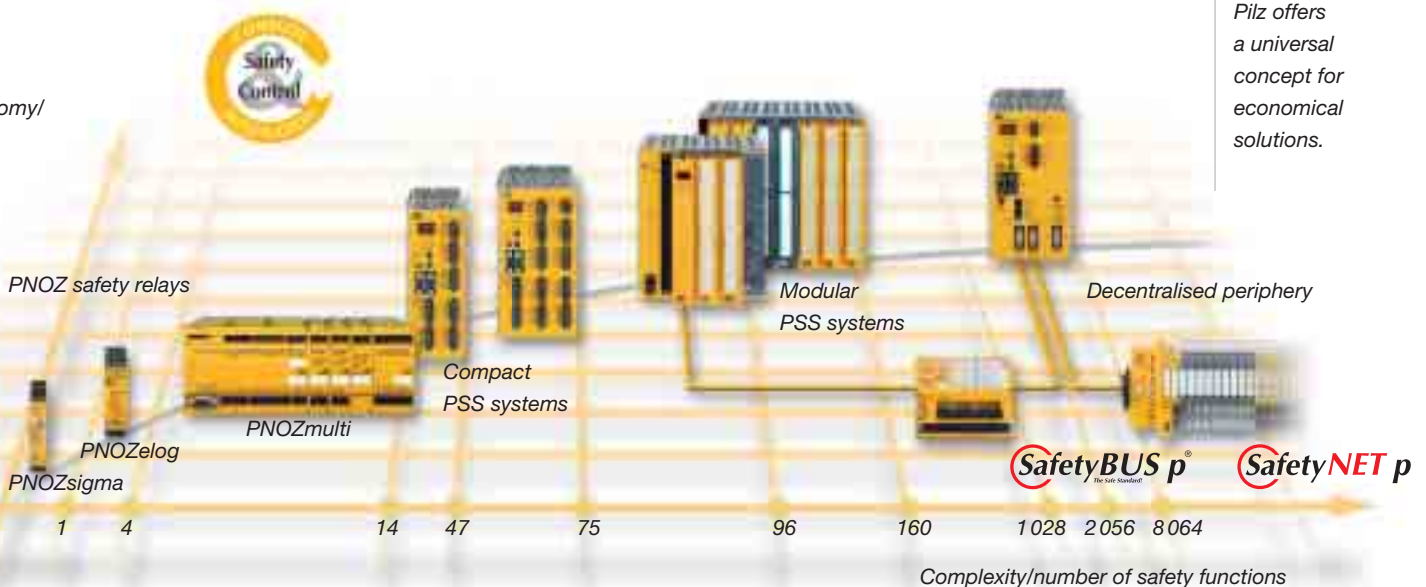
SafetyBUS p
The Safe Standard

- ▶ For electrical safety such as voltage or true power monitoring, electronic PMDsrange monitoring relays provide the optimum solution.
 - ▶ Pilz Motion Control (PMC) represents a flexible, modular and expandable automation system for complex motion and control functions. This automation system manages all the movements of a large number of physically separate servo axes within a plant.
 - ▶ For monitoring E-STOPS, safety gates, light curtains/light grids, two-hand control and many other functions, we recommend Pilz safe control technology in terms of functional safety. Standard control functions are included.
- For simple plant and machinery with up to 4 safety functions, use the safety relays PNOZ X, PNOZsigma and PNOZelog.
 - To cover 4 to 14 safety functions, the modular safety system PNOZmulti is the most economical solution.
 - On complex machinery or distributed plants, PSS programmable safety and control systems can be used with decentralised networking via SafetyBUS p and SafetyNET p.

Enjoy the benefits of approved, co-ordinated, complete solutions. Our portfolio is being extended to include control and signal devices such as E-STOP push-buttons, compatible sensor technology such as safety switches, light curtains/light grids and safe camera systems as well as operator terminals for diagnostics and visualisation. A wide range of services round off our business activities.

Pilz offers a universal concept for economical solutions.

Economy/ costs





Professional diagnostics and visualisation with PMI®

Robust and powerful

Every automation solution requires a sophisticated diagnostic and visualisation concept. The PMI product group provides a range of modern units for diagnostics and graphics. Used in conjunction with the PVIS diagnostic concept, the result is an optimum solution for each application. Available in various sizes, all units have been specially designed for use in a rugged industrial environment:

- ▶ Heat-stable due to low-power RISC processor
- ▶ Insensitive to vibration due to soldered memory and processors

- ▶ Insensitive to dust due to ventilation-free technology
- ▶ Front is protected against dust and sprayed water (IP65)

Powerful processors guarantee speedy performance even with complex applications.

High flexibility

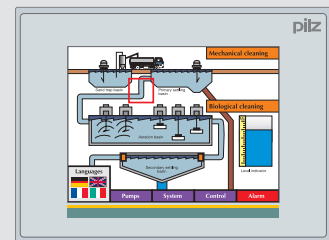
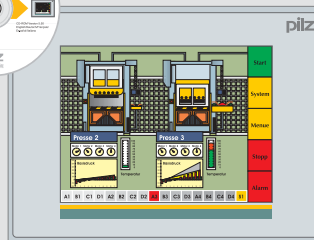
The choice is your's: a large number of display sizes, interfaces and feature options provide all the flexibility you need for your projects.

Quality from Germany

The devices are developed and manufactured at Pils in Germany, under the same strict quality requirements as our proven safety technology. So you receive reliable, high-quality devices plus competent advice and customer care.



Windows® CE OEM
with Premium
Source Access



PMImicro diag

Diagnostics with PVIS

- ▶ For PSS programmable safety and control systems and the safe bus system SafetyBUS p
- ▶ For the multifunctional safety system PNOZmulti
- ▶ For PMC motion control¹⁾
- ▶ For the safe camera system SafetyEYE¹⁾

PMIvisu

Diagnostics with PVIS

- ▶ For PSS and SafetyBUS p
 - ▶ For PNOZmulti, PMC¹⁾, SafetyNET p¹⁾ and SafetyEYE¹⁾
- Graphics system
- ▶ For PSS, SafetyBUS p, SafetyNET p¹⁾, PMC, PNOZmulti and SafetyEYE¹⁾
 - ▶ For all common makes of PLC programmable logic controllers

PMIopen

- ▶ Open hardware for your software
- ▶ Network and multimedia functionalities
- ▶ Customised solutions

¹⁾ in development

► Diagnostics and visualisation for any application

Applications are found in numerous industries, e.g. in:

- ▶ Cable cars and ski lifts
- ▶ Printing and paper
- ▶ Packaging machines
- ▶ Petrochemical plants
- ▶ Rides in amusement parks, such as roller coasters
- ▶ Semiconductor industry
- ▶ Automotive industry
- ▶ Steel and aluminium industry



Your benefits at a glance

- ▶ Co-ordinated, pre-configured solution for efficient project configuration
- ▶ Intelligent, comprehensive diagnostic solution for high productivity
- ▶ Wide range of application options due to numerous display sizes
- ▶ Flexible application thanks to hardware and software solutions
- ▶ Complete tool for diagnostics and visualisation



*Diagnostic and operator terminals
"Made in Germany"*

Keep up-to-date on PMI diagnostic and operator terminals:

 Webcode 0222

Online information at www.pilz.com



PVIS – Pilz diagnostic concept

- ▶ Intelligent diagnostics – including 50 % time saving
- ▶ Integrated within PMImicro diag
- ▶ Integrated within PVIS OPC Server for PMIvisu




▶ Selection guide – PMI operator terminals®


PMImicro diag operator terminals – Intelligent diagnostics

Type	Product	Diagnostic system for	Visualisation system for	Display type/size
PMImicro diag	PMI m107 diag	PSS, SafetyBUS p, PNOZmulti	PNOZmulti	2.8"/70 mm, 128 x 64, graphic b/w LCD
	PMI m309 diag	PSS, SafetyBUS p, PNOZmulti, PMC, SafetyEYE	-	3.5"/89 mm, 320 x 240, graphic colour TFT

PMIvisu touchscreen operator terminals – Complete solution with PMI-PRO graphics software

PMIvisu	Product	Diagnostic system for	Visualisation system for	Display type/size	
	PMI v309	PSS, SafetyBUS p, SafetyNET p ² , PMC ² , SafetyEYE ² , PNOZmulti	PSS, SafetyBUS p, SafetyNET p ² , SafetyEYE ² , PNOZmulti, PMC, Siemens, Allen-Bradley, OMRON, AEG, Telemecanique, 3S, Mitsubishi, Moeller, HITACHI	3.5"/89 mm, 320 x 240, graphic colour TFT	
	PMI v315 			5.7"/147 mm, 320 x 240, graphic colour CSTN	
	PMI v416			6.5"/165 mm, 640 x 480, graphic colour TFT	
	PMI v426			10.4"/269 mm, 640 x 480, graphic colour TFT	
	PMI v431			All PLC drivers included	12.1"/307 mm, 800 x 600, graphic colour TFT
	PMI v438			15.0"/380 mm, 1024 x 768, graphic colour TFT	

PMIopen touchscreen operator terminals – Open hardware platform for your software

PMIopen	Product	Diagnostic system for	Visualisation system for	Display type/size
	PMI o309	Depends on the software that is used	Depends on the software that is used	3.5"/89 mm, 320 x 240, graphic colour TFT
	PMI o315 			5.7"/147 mm, 320 x 240, graphic colour CSTN
	PMI o416			6.5"/165 mm, 640 x 480, graphic colour TFT
	PMI o426			10.4"/269 mm, 640 x 480, graphic colour TFT
	PMI o431			12.1"/307 mm, 800 x 600, graphic colour TFT
	PMI o438			15.0"/380 mm, 1024 x 768, graphic colour TFT

Operation	Included graphics software ¹⁾	Application	Printer	Mobile memory
Keys	PVIS diagnostics included	Intelligent diagnostics for PSS, SafetyBUS p, PNOZmulti; visualisation of small plants with PNOZmulti	-	CF card
Touchscreen/ keys	PVIS diagnostics included	Intelligent diagnostics for PSS, SafetyBUS p, PNOZmulti, PMC ²⁾ , SafetyEYE ²⁾ ; visualisation of small plants with PNOZmulti	-	USB stick

¹⁾ Runtime licence included, editor licence also required
²⁾ in development

Touchscreen/ keys	PMI-PRO	Diagnostics and visualisation of small plants	USB	USB stick
Touchscreen	PMI-PRO	Diagnostics and visualisation of small plants	USB, parallel	USB stick, CF card/ PCMCIA
Touchscreen	PMI-PRO	Diagnostics and visualisation of medium-sized plants	USB, parallel	
Touchscreen	PMI-PRO	Diagnostics and visualisation of medium-sized plants	USB, parallel	
Touchscreen	PMI-PRO	Diagnostics and visualisation of larger plants	USB, parallel	
Touchscreen	PMI-PRO	Diagnostics and visualisation of complex plants	USB, parallel	



*Diagnostic and operator terminals
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Touchscreen/ keys	-	Windows® CE-based graphics systems for customised software	USB	USB stick
Touchscreen	-		USB, parallel	USB stick, CF card/ PCMCIA
Touchscreen	-		USB, parallel	
Touchscreen	-		USB, parallel	
Touchscreen	-		USB, parallel	
Touchscreen	-		USB, parallel	

Keep up-to-date on PMI diagnostic and operator terminals:

Webcode 0391

Online information at www.pilz.com



► Diagnostics made simple – With the diagno

Minimum downtimes

Plant and machinery must be producing. As efficiently and economically as possible, and without interruption. It's not until the machine suffers an unscheduled stop that you recognise the value of good, user-friendly diagnostics.

A sophisticated concept developed from practice is a prerequisite. At Pilz we call it PVIS for short.

It's a universal diagnostic concept for small machines to large plants.

Two recognised factors were key for development. Machine manufacturers require programming to be simple, involving minimum effort. Operators, on the other hand, need clear, unambiguous instructions to enable them to rectify faults efficiently. PVIS satisfies both sides.

Configuration features

- Diagnostic projects are created with just a few clicks, using familiar programming software (PSS WIN-PRO or PNOZmulti Configurator).
- Pre-defined plain text messages and remedy messages are available for devices and blocks. Texts can be copied, adapted or created from new.
- All pre-defined texts are stored in multiple languages.
- Diagnostic messages can be extended based on bit and word information from the control systems.

Operational features

- Unambiguous information on the fault that has occurred: The operator is able to act quickly in the event of a fault.
- Targeted support for troubleshooting and fault recovery: This increases your ability to act in the case of a malfunction and thus your productivity. The remedy messages for the safety devices are already pre-defined and stored in the tools.
- Analysis included: For later analysis, PVIS stores every event with details of incoming and outgoing times in an "Event Log" ring memory.

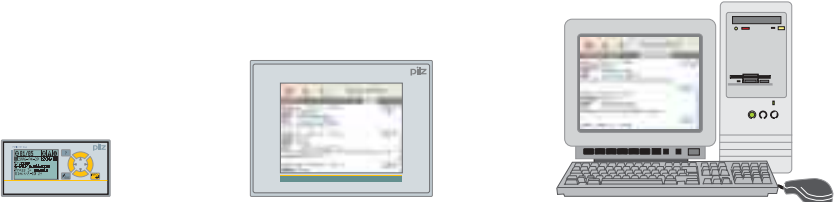
PVIS event message components

- Plain text message for the event
- Remedy messages for each event (up to eight actions)
- Text-based location information on equipment identifier, scope and responsibility
- Messages are prioritised – the triggering event is always displayed first

The texts are stored in the relevant PSS, SafetyBUS p or PNOZmulti project. For further details please refer to our System Description! Webcode 0685 www.pilz.com

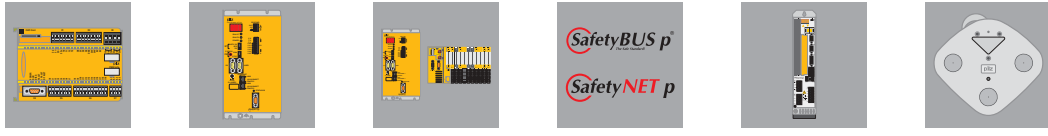


Diagnostic concept PVIS[®]





Fits perfectly into any customer topology

PVIS[®]
Based on PLE Diagnostic Concept

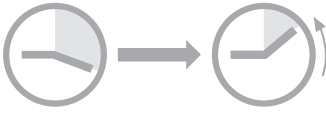


For all safety systems, control systems, SafetyBUS p, SafetyNET p, SafetyEYE and PMCprotego D

PVIS[®]
Based on PLE Diagnostic Concept

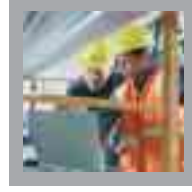





*Configuration
with just a few clicks*



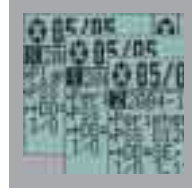
Save time during engineering

PVIS[®]
Based on PLE Diagnostic Concept

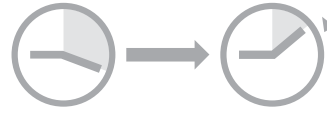




First fault detection

*Graphical
location information*



*Practical solution proposals –
step-by-step*



Save time during operation

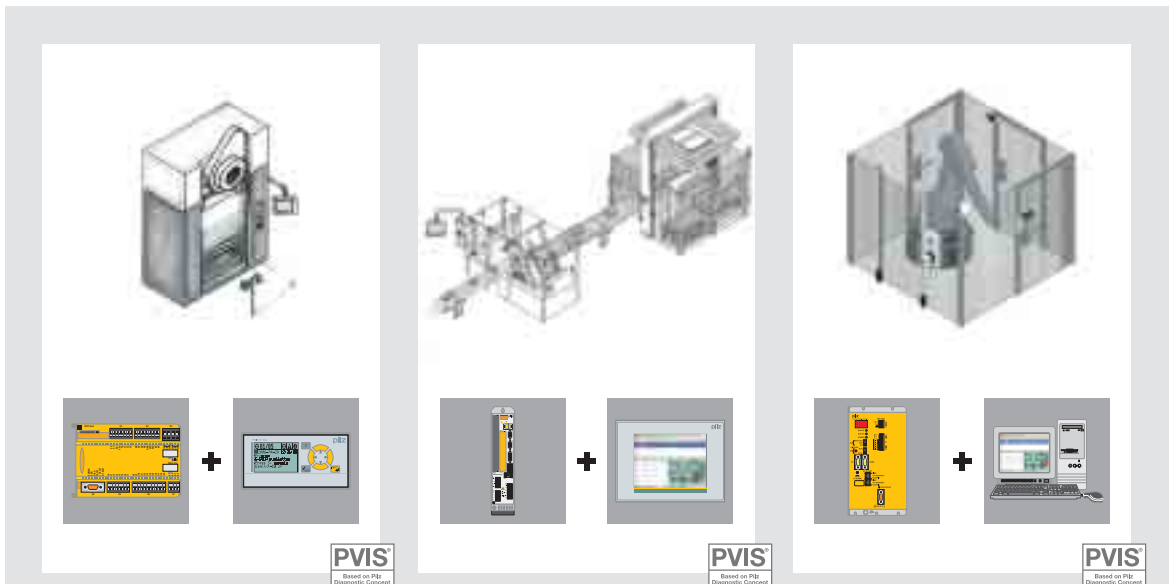
PVIS[®]
Based on PLE Diagnostic Concept



*Diagnostic and
operator terminals
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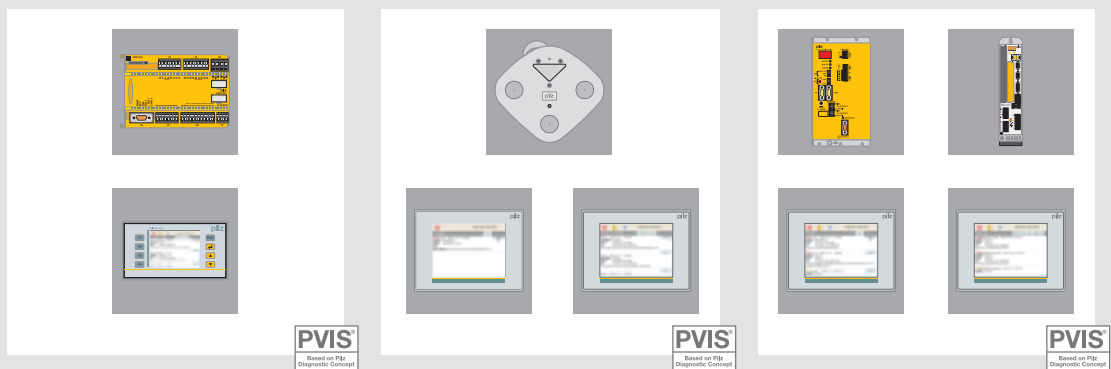


► Wide range of application options – with the



*Universal diagnostic concept: from a small machine to a large plant –
PVIS suits every application*

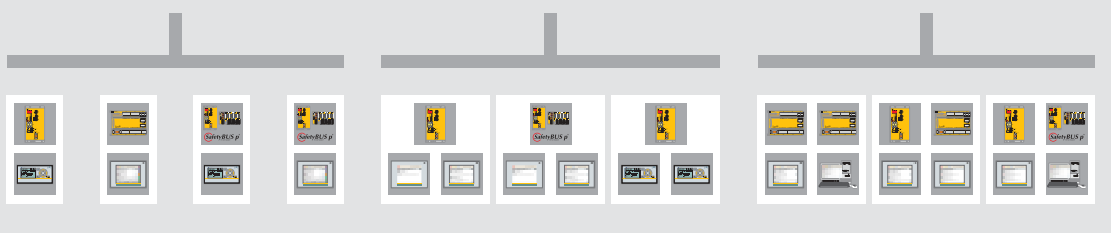
*Variety of potential solutions:
fits into any customer topology*



Point-to-point connection

*One control system,
multiple visualisation devices*

*Multiple control systems,
multiple visualisation devices*



diagnostic concept PVIS®

Benefits for machine operators

- ▶ Saves time and money with error messages in plain text
- ▶ Practical solution proposals help to get production restarted quickly
- ▶ Simple to operate, without any knowledge of programming
- ▶ Machine-specific diagnostic solution thanks to an intelligent concept

Benefits for machine manufacturers and system integrators

- ▶ Use familiar software: PSS WIN-PRO or PNOZmulti Configurator
- ▶ Pre-defined error messages and step-by-step remedy messages for a large number of safety devices
- ▶ Save time with simple configuration: just a few clicks in the control system's software
- ▶ Pre-defined messages in multiple languages
- ▶ Flexible concept – easy to adapt pre-defined messages and add new messages



*Diagnostic and operator terminals
"Made in Germany"*

*Keep up-to-date
on the diagnostic
concept PVIS:*

 Webcode 1046

*Online information
at www.pilz.com*



► Compact diagnostics – PMImicro diag



Diagnostics made simple

To display PVIS diagnostics with PMImicro diag, the diagnostic messages are copied or created directly when the program is created for the PNOZmulti or PSS.

For the PNOZmulti, for example, the simplest option is to copy the pre-defined messages in the required language via a single click when the sensor block is configured. All messages are stored as part of the PNOZmulti application and are downloaded to the PMImicro diag once the application is complete – also via the PNOZmulti Configurator of course.

Diagnostics for Pilz control systems

All diagnostic messages are displayed on the diagnostic unit PMImicro diag using a clear display concept.

PMImicro diag is suitable for direct connection to a PNOZmulti modular safety system or a PSS programmable safety and control system/SafetyBUS p CPU. The whole configuration is performed in the PNOZmulti Configurator or in PSS WIN-PRO.

Keep up-to-date on:

- PNOZmulti modular safety systems

 Webcode 0243

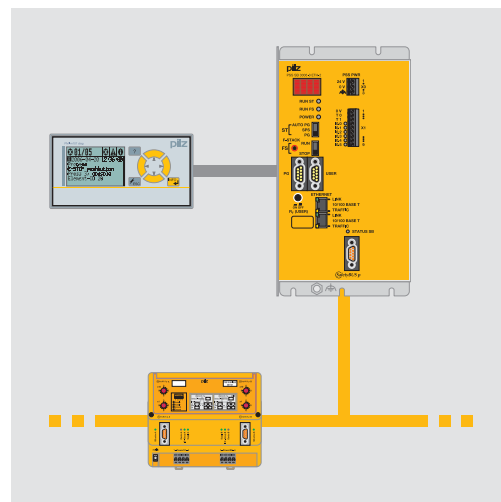
- PSS programmable safety and control systems

 Webcode 0527

Online information at www.pilz.com



Diagnostics for the PNOZmulti modular safety system.



Diagnostics for the PSS programmable safety and control systems, the safe bus system SafetyBUS p and SafetyNET p.

Intelligent diagnostics in the shortest possible time – A worthwhile investment

With the diagnostic device PMImicro diag, plant and machine operators have a system that enables rapid troubleshooting when production faults occur. Error messages from PSS, SafetyBUS p and PNOZmulti are shown in plain text along with positive suggestions for how to rectify the fault.

Plant operators do not need any programming skills. And – when the system is configured appropriately – it will provide the name of the relevant contact for each fault. This ensures that the machine operator notifies the relevant specialist immediately when a fault occurs.

PMImicro diag – Two versions to suit every purpose

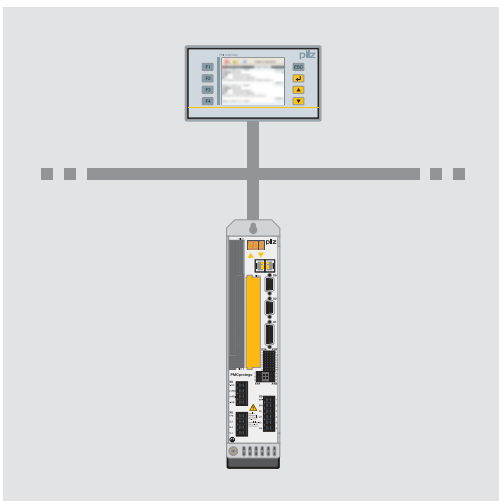
PMI m107 diag is available for control systems with serial interfaces, such as the PNOZmulti or PSS. As there are two serial interfaces, the PNOZmulti (PSS) can remain connected while the projects are downloaded from the PNOZmulti Configurator (PSS WIN-PRO). That way it's possible to download sub-applications to the end devices without them having to be plugged into another socket. The PMI m309 diag version also provides an Ethernet interface for connection to PSS, PMC and SafetyEYE. In this case the application is downloaded using the PVIS OPC Configurator.

Your benefits at a glance

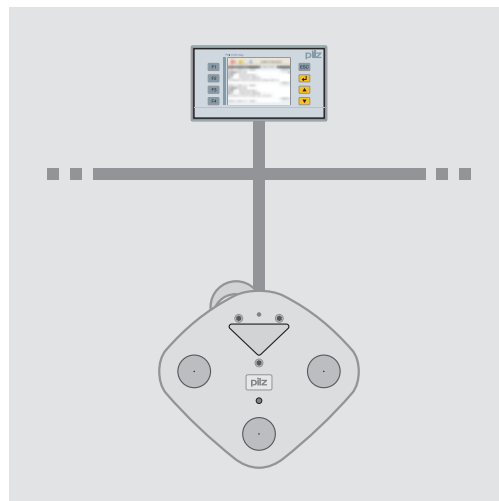
- ▶ Compact
- ▶ Easy to operate
- ▶ Plant and machinery can be restarted quickly thanks to plain text messages
- ▶ High-quality hardware with good legibility
- ▶ Rapid configuration thanks to pre-configured system messages
- ▶ Events can be traced thanks to the “Event Log Function”



*Diagnostic and operator terminals
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Diagnostics for the servo amplifiers PMCprotego D.



Diagnostics for the safe camera system SafetyEYE.

Keep up-to-date on:

- ▶ Servo amplifiers
PMCprotego D

Webcode 2591

- ▶ The safe camera system
SafetyEYE

Webcode 1902

Online information at www.pilz.com



► Technical details – PMImicro diag

Diagnostic device for PSS, SafetyBUS p and PNOZmulti

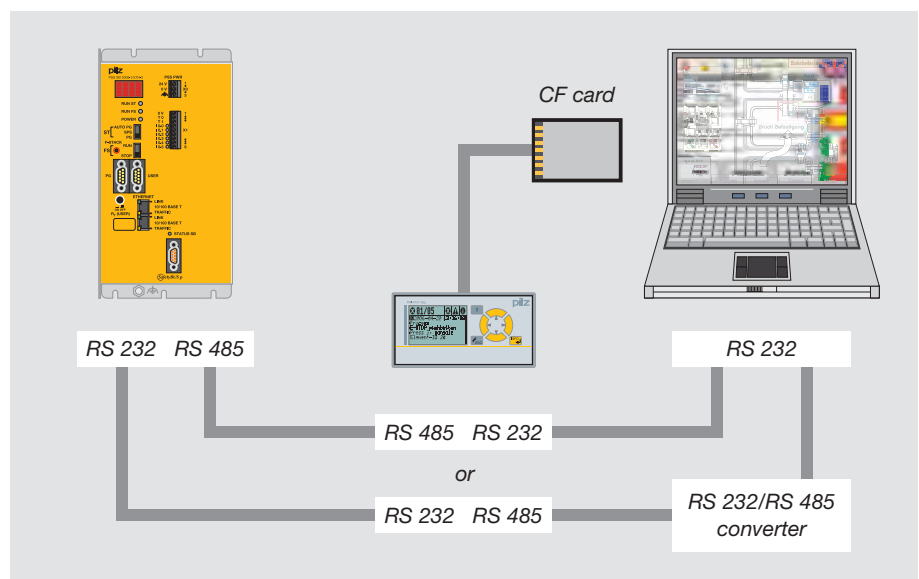


PMI m107 diag



PMI m309 diag

Type	Display	Screen resolution	Diagonal resolution	Character set
PMI m107 diag	<ul style="list-style-type: none"> ▶ LC dot matrix graphic module ▶ Transflective 	128 x 64 pixels	2.8"/70 mm	European
PMI m309 diag	<ul style="list-style-type: none"> ▶ TFT 	320 x 240 pixels, QVGA	3.5"/89 mm	Unicode



Connection example: PSS/SafetyBUS p and PMI m107 diag.

Interfaces	Mechanical data			Order number
	Dimensions incl. front panel (H x W x D) in mm	Modular depth (excl. add-on modules) in mm	Mounting cut-out in mm	
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 485 	78 x 148 x 57	51	68 x 138 (installation is compatible with PX 20/PX 30)	260 000
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/RS 422/RS 485 ▶ USB Host/Slave ▶ 1 x Ethernet, 10/100 Mbit/s 	87 x 157 x 52	52	68 x 138 (installation is compatible with PX 20/PX 30)	260 500

Common features

- ▶ Real-time clock: Battery-buffered real-time clock
- ▶ Supply voltage: 24 VDC
- ▶ Protection type: IP65 front, IP20 back
- ▶ Environment:
 - Operating temperature: 0 ... 55 °C
 - Storage: -25 ... +70 °C
 - Climatic suitability: Max. 95 % r. h. at +40 °C



*Diagnostic and operator terminals
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*Technical documentation on diagnostic units
 PMLmicro diag:*

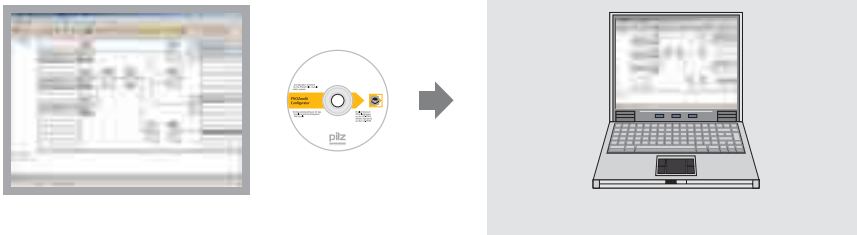
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Online information at www.pilz.com



► Flexible diagnostics – PVIS OPC Tools

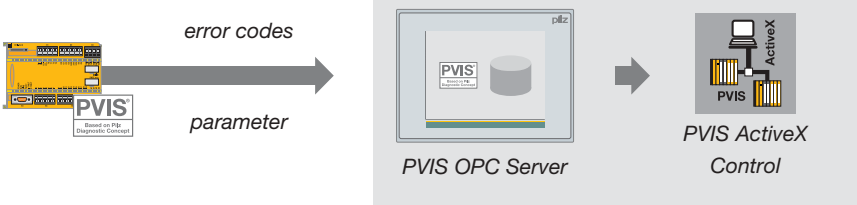
Planning



Activate diagnostic texts at the click of a mouse



Operation



PVIS OPC Server and PVIS ActiveX Control

The PVIS OPC Tools consist of the PVIS OPC Server, PVIS ActiveX Control and PVIS OPC Configurator. The PVIS OPC Server supplies all the data from the connected control system based on the OPC standard. The PVIS OPC Server obtains the required diagnostic texts through the PVIS OPC Configurator Tool. The messages are displayed in a pre-programmed window in PVIS ActiveX Control format. They can be incorporated directly into many graphics software packages without any additional programming, incl. Pilz PMI-PRO, WinCC, iFIX or even Internet Explorer.

OPC

OPC stands for openness, productivity, collaboration. It is a standardised software interface, which enables applications from a wide variety of manufacturers to exchange data.

ActiveX Control

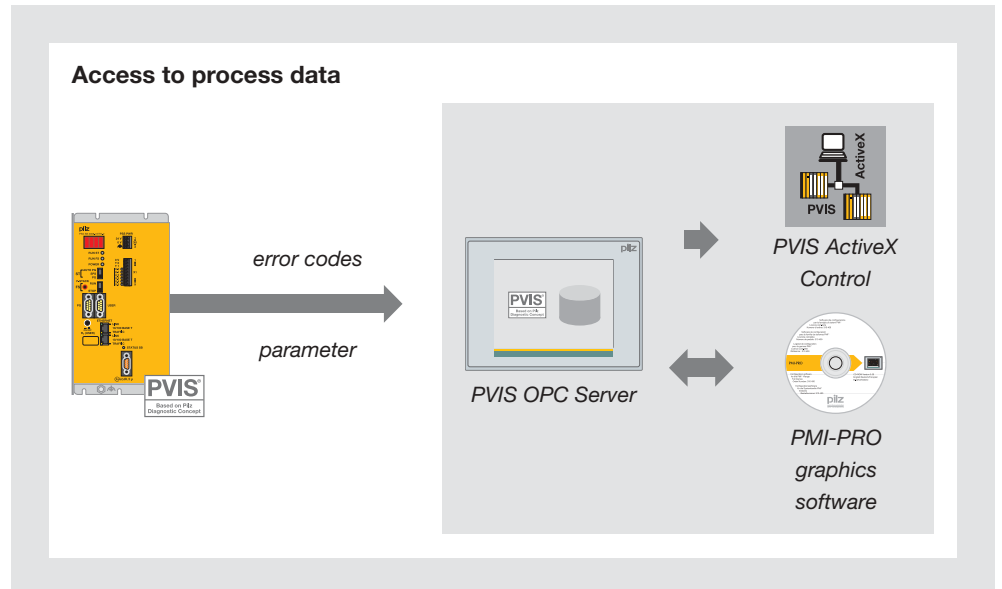
An ActiveX Control is a reusable software component, which can be developed for a variety of uses, e.g. for graphical data display.

OPC Configurator

The PVIS OPC Configurator is used to collect diagnostic data from the PSS WIN-PRO/ PNOZmulti Configurator projects. The data is then downloaded from the OPC Configurator to the diagnostic unit PMImicro diag.

Data access to process data

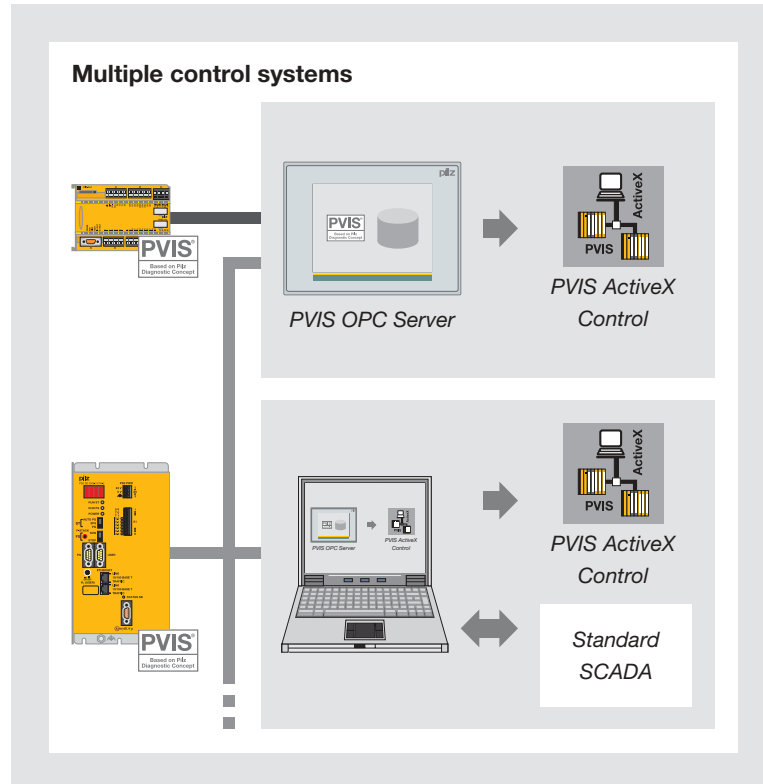
In addition to its diagnostic functionality the PVIS OPC Server also provides data access to process data in the PSS. Access is via a standard OPC Client (e.g. PMI-PRO, WinCC, ...). Access is read/write, of course.



PVIS diagnostics and visualisation of multiple control systems

With PVIS OPC Tools it is possible to visualise several control systems simultaneously – including a combination of PSS and PNOZmulti.

The messages can be displayed using several diagnostic devices. Several PVIS ActiveX Controls can access one PVIS OPC Server in the process. Diagnostic devices may be units from the PMIvisu-range or standard PCs/industrial computers.



*Diagnostic and operator terminals
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*Keep up-to-date on
 PVIS OPC Tools:*

Webcode 2975

*Online information
 at www.pilz.com*

► Diagnostics and visualisation – PMIvisu



PMIvisu graphics touchscreen terminals provide a flexible, complete solution for

- Diagnostics on PSS programmable safety and control systems, the safe bus system SafetyBUS p, SafetyNET p, the modular safety system PNOZmulti and the safe camera system SafetyEYE, using the PVIS diagnostic system

- Visualisation of PSS, SafetyBUS p, SafetyNET p, Pilz Motion Control (PMC), PNOZmulti and other common PLC systems, using PMI-PRO

Diagnostics

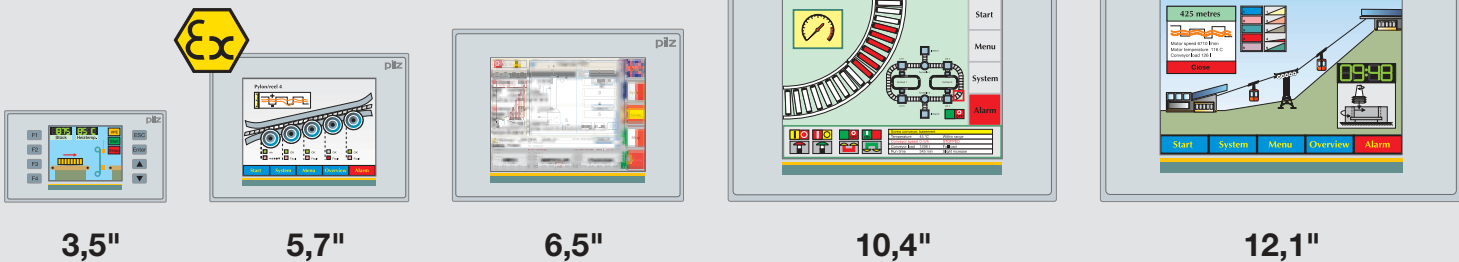
PMIvisu offers all the attractive diagnostic functionalities of PVIS (see page 10).

- Simultaneous diagnostics on several PSS programmable safety and control systems, SafetyBUS p CPUs and PNOZmulti units, including a combination of these units
- Diagnostics can be displayed on multiple visualisation devices
- Clear presentation and simple display-based operation

Visualisation

In conjunction with PMI-PRO graphics software, PMIvisu graphics touchscreen terminals can master all common visualisation tasks: simple configuration, implementation and application.

PMI-PRO and numerous interfaces on the device enable PMIvisu to be connected to a large number of programmable logic controllers, even simultaneously. A selection of drivers for standard PLCs is available for this purpose. For example, PMIvisu can be connected to programmable logic controllers from Pilz, Siemens, Allen Bradley, Telemecanique, HITACHI, OMRON and Mitsubishi. The drivers are included in the package. A detailed list of drivers is available on the Internet at www.pilz.com



Modbus TCP



CANopen

**Benefits at a glance
PMIvisu**

An overview of some of the functionalities of PMI-PRO:

- ▶ Online language switching
- ▶ Automatic scaling when the display size is changed
- ▶ Password protection
- ▶ Object libraries
- ▶ Offline simulation during configuration
- ▶ Optical and acoustic signals during operation

Ready to tackle growing requirements

With PMI-PRO, projects can easily be adapted to suit growing requirements. A fully networkable PC solution is available. Applications created for the PMI can still be used without restriction. This provides greater flexibility and security of investment.

Your benefits at a glance

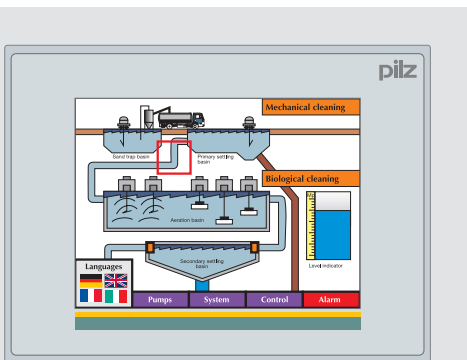
- ▶ Diagnostics and visualisation in one device
- ▶ Diagnostics for PSS, SafetyBUS p, SafetyNET p and PNOZmulti
- ▶ Large range of functions enables quick, easy configuration
- ▶ Quality product from Germany



PMI-PRO – The professional configuration and operating software.



*Diagnostic and operator terminals
"Made in Germany"*



15,0"

MPI

Ethernet

Hardware

The units are developed and manufactured in-house in Germany. So you receive reliable, high-quality devices plus competent advice and customer care. A selection of display sizes and feature options are available, providing the flexibility you need for your work:

- ▶ Visualisation for compact projects – PMI v309 with 3.5" display and PMI v315 with 5.7" display
- ▶ High level of visualisation within a small area – PMI v416 with 6.5" display
- ▶ Visualisation that's easy to read – PMI v426 with 10.4" display
- ▶ The solution for large plants – PMI v431 with 12.1" display
- ▶ The solution for complex plants – PMI v438 with 15.0" display

High level of flexibility with six display sizes and a wide range of interfaces.

Keep up-to-date on PMIvisu operator terminals:

 **Webcode 2939**

Online information at www.pitz.com



► Technical details – PMIvisu

PMIvisu diagnostics and visualisation device



PMI v309



PMI v315



PMI v416



PMI v426



PMI v431



PMI v438

A wide selection of accessories is available for the PMIvisu devices, e.g. protective membranes, configuration stands and CompactFlash cards.

Further information:
www.pilz.com


Type	Display					Interfaces
	Type	Colours	Diagonal resolution	Brightness	HBT ¹⁾	Communication
PMI v309	TFT	32,768	▶ 3.5"/89 mm ▶ 320 x 240 pixels QVGA	250 cd/m ²	10,000 h (LED)	▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s
PMI v315	CSTN	256	▶ 5.7"/147 mm ▶ 320 x 240 pixels QVGA	200 cd/m ²	40,000 h (CCFL)	▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s
PMI v416	TFT	65,536	▶ 6.5"/165 mm ▶ 640 x 480 pixels VGA	400 cd/m ²	40,000 h (CCFL)	▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s
PMI v426	TFT	65,536	▶ 10.4"/269 mm ▶ 640 x 480 pixels VGA	300 cd/m ²	40,000 h (CCFL)	▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s
PMI v431	TFT	65,536	▶ 12.1"/307 mm ▶ 800 x 600 pixels SVGA	300 cd/m ²	50,000 h (CCFL)	▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s
PMI v438	TFT	65,536	▶ 15.0"/380 mm ▶ 1024 x 768 pixels XGA	300 cd/m ²	40,000 h (CCFL)	▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s

PMI-PRO and PMI-PRO open accessories



Professional configuration and operating software PMI-PRO

Type	Full licence (DE, EN, ES, FR, IT) incl. download cable	Upgrade licence (DE, EN, ES, FR, IT)	Licence (DE, EN, ES, FR, IT)
PMI-PRO Editor	Order no. 310 400	Order no. 310 405	-
PMI-PRO open	-	-	Order no. 250 500

Communication options ²⁾	Expansion	Dimensions in mm (H x W x D):	Order number
<ul style="list-style-type: none"> ▶ MPI ▶ PROFIBUS DP-Slave ▶ CANopen ▶ SafetyNET p 	<ul style="list-style-type: none"> ▶ 2 x USB ▶ 1 x Audio (LINE OUT) 	87 x 157 x 52	<ul style="list-style-type: none"> ▶ Basic..... 261 000 ▶ MPI 261 002 ▶ PROFIBUS DP-Slave..... 261 003 ▶ CANopen 261 005
<ul style="list-style-type: none"> ▶ MPI ▶ PROFIBUS DP-Slave ▶ CANopen ▶ SafetyNET p 	<ul style="list-style-type: none"> ▶ 2 x USB³⁾ ▶ 1 x Audio (LINE OUT)³⁾ ▶ 2 x PCMCIA³⁾ (2 x Type II or 1 x Type III) 	155 x 196 x 66	<ul style="list-style-type: none"> ▶ Basic..... 261 050 ▶ LPT or LPT/USB/VGA..... 261 051 ▶ MPI 261 052 ▶ PROFIBUS DP-Slave..... 261 053 ▶ CANopen 261 055 <p>ATEX³⁾ </p> <ul style="list-style-type: none"> ▶ Basic..... 261 070 ▶ LPT 261 071 ▶ MPI 261 072 ▶ PROFIBUS DP-Slave..... 261 073 ▶ CANopen 261 075
<ul style="list-style-type: none"> ▶ MPI ▶ PROFIBUS DP-Slave ▶ CANopen ▶ SafetyNET p 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	165 x 212 x 79	<ul style="list-style-type: none"> ▶ Basic..... 263 080 ▶ MPI 263 082 ▶ PROFIBUS DP-Slave..... 263 083 ▶ CANopen 263 085 ▶ SafetyNET p..... 263 086
<ul style="list-style-type: none"> ▶ MPI ▶ PROFIBUS DP-Slave ▶ CANopen ▶ SafetyNET p 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	243 x 317 x 82	<ul style="list-style-type: none"> ▶ Basic..... 263 100 ▶ MPI 263 102 ▶ PROFIBUS DP-Slave..... 263 103 ▶ CANopen 263 105 ▶ SafetyNET p..... 263 106
<ul style="list-style-type: none"> ▶ MPI ▶ PROFIBUS DP-Slave ▶ CANopen ▶ SafetyNET p 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	276 x 352 x 83	<ul style="list-style-type: none"> ▶ Basic..... 263 180 ▶ MPI 263 182 ▶ PROFIBUS DP-Slave..... 263 183 ▶ CANopen 263 185 ▶ SafetyNET p..... 263 186
<ul style="list-style-type: none"> ▶ MPI ▶ PROFIBUS DP-Slave ▶ CANopen ▶ SafetyNET p 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	332 x 412 x 83	<ul style="list-style-type: none"> ▶ Basic..... 263 260 ▶ MPI 263 262 ▶ PROFIBUS DP-Slave..... 263 263 ▶ CANopen 263 265 ▶ SafetyNET p..... 263 266

¹⁾ HBT = Half Brightness Time
²⁾ Partly as unit type
³⁾ For operation under ATEX conditions, please refer to the guidelines provided in the units' manual



Diagnostic and operator terminals
"Made in Germany"

Technical documentation on PMLvisu operator terminals:

 Webcode 2945

Online information at www.pilz.com

Common features

- ▶ Processor: RISC processor 400MHz (PMI v3xx)/624 MHz (PMI v4xx), XScale
- ▶ Supply voltage: 24 VDC
- ▶ Protection type: IP65 front, IP20 back
- ▶ Environment:
 - Operating temperature 0 ... 50 °C
 - Storage -20 ... 60 °C
 - Humidity max. 90 % r. h. at +40 °C (non-condensing)

▶ Open hardware for your software – PMIopen

PMIopen – Use your normal software

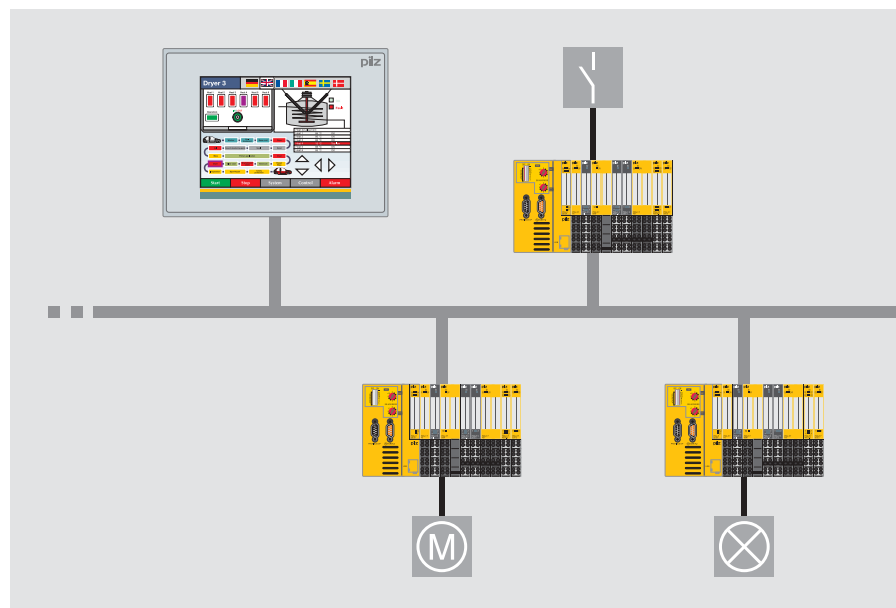
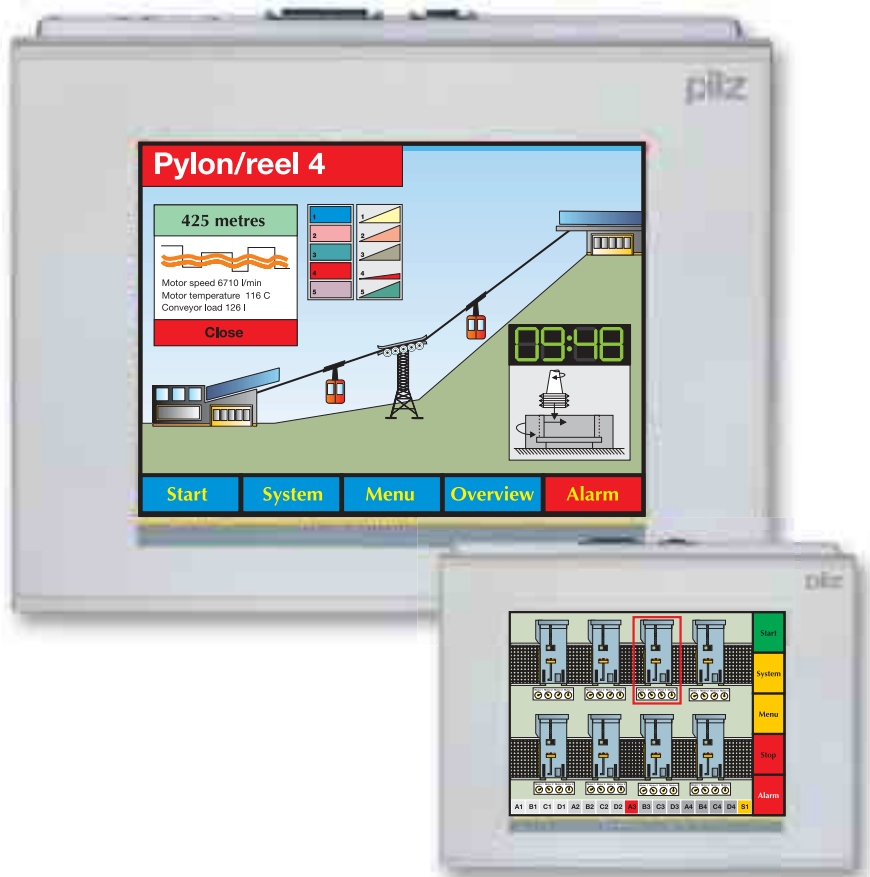
With PMIopen operator terminals Pilz provides universal devices for use with any Windows® CE-compatible software.

Devices are available in six display sizes:

- ▶ PMI o309 – with 3.5" TFT display
- ▶ PMI o315 – with 5.7" CSTN display
- ▶ PMI o416 – with 6.5" colour TFT display
- ▶ PMI o426 – with 10.4" colour TFT display
- ▶ PMI o431 – with 12.1" colour TFT display
- ▶ PMI o438 – with 15.0" colour TFT display

Premium support

Pilz was one of the first companies in Germany to be granted the status of “Windows® CE OEM with Premium Source Access”. This means that Pilz has access to the Windows® CE source code and can therefore modify the code independently. The benefit for users is that it allows Pilz to provide premium support and to adapt the operating system exactly to the customer’s needs.



Windows® CE OEM
with Premium
Source Access

Benefits at a glance PMlopen

Simple software installation

PMlopen is ready for the installation of both standard graphics software and customised software. The software is installed via the Microsoft® ActiveSync functionality, so it is quick and uncomplicated.

In principle, any software created for Windows® CE.net and Intel® XScale processor can be operated on PMlopen (SDK¹⁾ is included).

Installation has been tested for a selection of graphics software programs:

- ▶ zenOn from COPA-DATA²⁾
- ▶ Web Studio from InduSoft²⁾
- ▶ Movicon from Progea²⁾

Extensive multimedia and network functionalities

PMlopen offers a wide range of functionalities for multimedia and network applications:

- ▶ PPPoE enables remote maintenance, e.g. via DSL
- ▶ WLAN via PCMCIA interface
- ▶ PPTP, L2TP, VPN via the Internet
- ▶ FTP, SMB
- ▶ HTTP with Jscript, VBScript, WebDAV, SOAP
- ▶ Telnet
- ▶ SNTp
- ▶ VNC
- ▶ RDP-Windows Terminal Server Client
- ▶ Internet Explorer
- ▶ Media Player

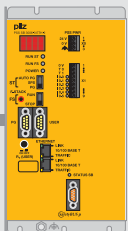
When you use PMlopen you benefit from the products' high performance and from quality that was developed and manufactured in Germany. The existing expertise at Pilz means that specific adaptations are easy to make.

Your benefits at a glance

- ▶ Makes use of existing software expertise
- ▶ Reliable hardware from Germany
- ▶ Robust and long-lasting, with ventilation-free Intel® XScale technology, Flash memory and high-quality display
- ▶ Suitable for industrial use as the front panel is resistant to chemicals and protected against dust and sprayed water, plus the unit is designed to be tolerant of shock and vibration
- ▶ Applications worldwide thanks to UL/cUL approval



Diagnostic and operator terminals
"Made in Germany"



PMlopen performs visualisation and control functions, depending on the software you use.

¹⁾ System Developer Kit

²⁾ Please purchase from the software manufacturer

Keep up-to-date on PMlopen operator terminals:



Online information at www.pilz.com



► Technical details – PMIopen

PMIopen diagnostics and visualisation device



PMI o309



PMI o315



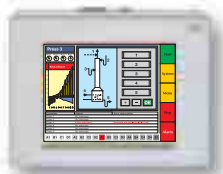
PMI o416



PMI o426



PMI o431




PMI o438

A wide selection of accessories is available for the PMIopen devices, e.g. protective membranes, configuration stands and CompactFlash cards.

Further information:
www.pilz.com

Type	Display				
	Type	Colours	Diagonal resolution	Brightness	HBT ¹⁾
PMI o309	TFT	32,768	▶ 3.5"/89 mm ▶ 320 x 240 pixels QVGA	250 cd/m ²	10,000 h (LED)
PMI o315	CSTN	256	▶ 5.7"/147 mm ▶ 320 x 240 pixels QVGA	200 cd/m ²	40,000 h (CCFL)
PMI o416	TFT	65,536	▶ 6.5"/165 mm ▶ 640 x 480 pixels VGA	400 cd/m ²	40,000 h (CCFL)
PMI o426	TFT	65,536	▶ 10.4"/269 mm ▶ 640 x 480 pixels VGA	300 cd/m ²	40,000 h (CCFL)
PMI o431	TFT	65,536	▶ 12.1"/307 mm ▶ 800 x 600 pixels SVGA	300 cd/m ²	50,000 h (CCFL)
PMI o438	TFT	65,536	▶ 15.0"/380 mm ▶ 1 024 x 768 pixels XGA	300 cd/m ²	40,000 h (CCFL)

Interfaces Communication	Expansion	Dimensions in mm (H x W x D):	Order number
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s 	<ul style="list-style-type: none"> ▶ 2 x USB ▶ 1 x Audio (LINE OUT) 	87 x 157 x 52	<ul style="list-style-type: none"> ▶ Basic..... 262 000
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s 	<ul style="list-style-type: none"> ▶ 2 x USB²⁾ ▶ 1 x Audio (LINE OUT)²⁾ ▶ 2 x PCMCIA²⁾ (2 x Type II or 1 x Type III) 	155 x 196 x 66	<ul style="list-style-type: none"> ▶ Basic..... 262 050 ▶ LPT 262 051 <p>ATEX²⁾ </p> <ul style="list-style-type: none"> ▶ Basic..... 262 070 ▶ LPT 262 071
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	165 x 212 x 79	<ul style="list-style-type: none"> ▶ Basic..... 264 080
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	243 x 317 x 82	<ul style="list-style-type: none"> ▶ Basic..... 264 100
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	276 x 352 x 83	<ul style="list-style-type: none"> ▶ Basic..... 264 180
<ul style="list-style-type: none"> ▶ 1 x RS 232 ▶ 1 x RS 232/422/485 ▶ 1 x Ethernet 10/100 Mbit/s 	<ul style="list-style-type: none"> ▶ 4 x USB ▶ 1 x Audio (LINE IN/OUT) ▶ 1 x PCMCIA (1 x Type II) ▶ 1 x LPT ▶ 1 x VGA ▶ 1 x PS/2 Combi 	332 x 412 x 83	<ul style="list-style-type: none"> ▶ Basic..... 264 260

¹⁾ HBT = Half Brightness Time
²⁾ For operation under ATEX conditions, please refer to the guidelines provided in the units' manual




Diagnostic and operator terminals
"Made in Germany"

Common features

- ▶ Processor: RISC processor 400MHz (PMI o3xx)/624 MHz (PMI o4xx), XScale
- ▶ Supply voltage: 24 VDC
- ▶ Protection type: IP65 front, IP20 back
- ▶ Environment:
 - Operating temperature 0 ... 50 °C
 - Storage -20 ... 60 °C
 - Humidity max. 90 % r. h. at +40 °C (non-condensing)

Technical documentation on PMlopen operator terminals:

 Webcode 2944

Online information at www.pilz.com

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...
In many countries we are represented by sales partners.

Please refer to our homepage for further details or contact our headquarters.

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pilz
more than automation
safe automation