

PEPPERL+FUCHS

PROCESS AUTOMATION

VisuNet

HMI SOLUTIONS BASED ON NETWORK TECHNOLOGY





VisuNet is the world's first HMI platform for the process industry to communicate using Ethernet TCP/IP network structures and eliminates completely proprietary connection techniques. Ethernet-based connection networks commonly used in the automation sector can now be used for PC-based visualization in harsh industrial atmospheres commonly found in process environments.

VisuNet integrates all the benefits of a modern network infrastructure based on standard Ethernet components – into simple remote monitor solutions where the display, keyboard, and mouse are located up to 2 km away from the PC in the safe area. VisuNet can also be used as a full-scale panel PC installed in the field. Since Fast Ethernet with TCP/IP protocol is becoming more popular in automation technology, existing network infrastructures can be used without any problems.

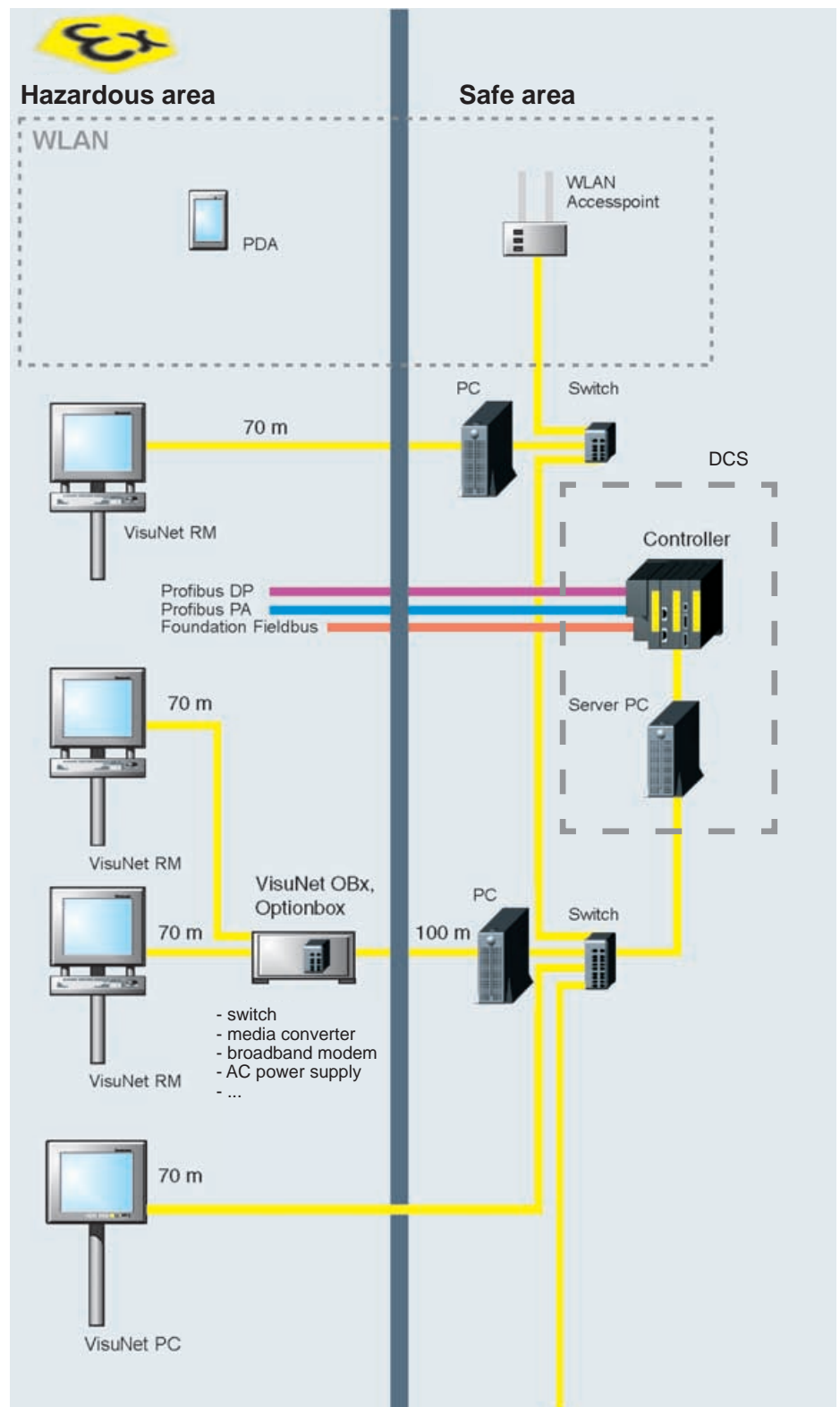
The **VisuNet** platform consists of

- VisuNet PC, Panel-PC solutions
- VisuNet RM, Remote monitor stations
- VisuNet OBx, Optionbox configurable with power supply and network components

The **VisuNet** devices are designed for installation according to:

- ATEX, category II 2G (*zone 2 gas*)
- ATEX, category II 2D (*zone 21 dust*) (*limited models*)
- IEC Ex, zones 1/21 (*in preparation*)
- or in standard industrial environment (*other in preparation*)

and comply with even the toughest requirements requiring to robustness, safety and functionality.





VisuNet PC, PCEX410/412, Panel PC

VisuNet PCEX410/412, established system solutions!

- Neutral PC platform --- genuine PC functionality
- Network Technology --- Ethernet connectivity
- USB/Serial interfaces --- connection to the process / barcode reading systems / others
- Pepperl+Fuchs software package --- data security / data recovery / others
- Selection of operating systems --- Windows 2000, Windows XP Professional / others

	VisuNet PCEX410	VisuNet PCEX412
Display		
Screen size	10.4"	12.0"
Resolution	800 x 600 (SVGA)	1024 x 768 (XGA)
Type	LCD, TFT	LCD, TFT
Display colors	262144	262144
Graphic memory	32 MB	32 MB
Brightness	230 cd/m2	300 cd/m2
Contrast	300:1	500:1
Viewing angle	horizontal 120° vertical 100°	horizontal 120° vertical 80°
50% lifetime CCFL display	50,000 h	50,000 h
PC System		
Processor	400 MHz	733 MHz
RAM	256 MB / 512 MB	256 MB / 512 MB
Hard disc	20 GB	20 GB
Interfaces		
Exe	1 x Fast Ethernet 1 x RS485/TTY 1 x USB	1 x Fast Ethernet 1 x RS485/TTY 1 x USB
I.S.	1 x USB	1 x USB
Keyboard, mouse	2 x PS/2	2 x PS/2
Touch screen	1 x USB	1 x USB
Barcode reader	1 x TTY	1 x TTY
Controls		
Function keys	24	4
Cursor block	•	-
Numeric block	•	-
Special buttons	•	•
Mouse button	•	•
Touch Screen	resistive, 8-wire technology	resistive, 8-wire technology
Ratings		
Power consumption	35 W	44 W
Supply voltage	24 V DC / +/- 20%	24 V DC / +/- 20%
Ambient temp. operations	0 °C ... +45 °C	0 °C ... +45 °C
Ambient temp. storage	-20 °C ... +60 °C	-20 °C ... +60 °C
Dimensions (WxHxD)		
Dimensions	452 x 295 x 140 mm	396 x 305 x 172 mm
Cut out dimension	416 x 258 mm	360 x 268 mm
Housing (IP65)	552 x 440 x 219 mm	552 x 440 x 219 mm
Weight		
	17 kg	20 kg
Front plate		
Degree of protection	Anodized aluminum, Polyester foil IP65, front	Anodized aluminum, Polyester foil IP65, front
Approvals		
ATEX	II 2G, EEx qe [ib] IIC T4	II 2G EEx qe [ib] IIC T4 and II 2D IP65 T95 °C
External Housing (option)		
Stainless steel	1.4301/ 304 1.4404/ 316L (optional)	1.4301/ 304 1.4404/ 316L (optional)
Degree of protection	IP65	IP65
Weight (housing)		
	17 kg	17 kg

Panel-PC = operator panel + PC unit

This combination of an operator panel and a powerful, integrated PC unit provides an ideal platform for control and display panels with a customer-defined visualization system, for soft PLC systems, for client-server applications or for browser-based terminals.



The VisuNet PC415/419 panel PCs, designed for the hazardous area, define new benchmarks in

- PC performance
- housing design
- modular concepts

and offer optimal conditions for peripheral visualization and processing of information.

The integrated Ethernet interface allows connections into existing network infrastructure. In combination with the VisuNet Option box OBx, it is possible to connect several VisuNet PCs directly on site in the hazardous area and bridge distances up to 2 km.



VisuNet PC, PCEX415/419, Panel PC


Panel PC for challenging demands in industrial environments!

- Neutral PC platform --- genuine PC functionality
- Network technology --- Ethernet connectivity
- USB/Serial interfaces --- connection to the process / barcode reading system / ...
- Pepperl+Fuchs software package --- data security / data recovery / ...
- Selection of operating system --- Windows 2000, Windows XP Professional, ...
- Front access --- optimized installation and maintenance
- Stainless steel front plate --- complies with the toughest requirements
- Modular concept --- customized solutions based on standard components (display, keyboard, mouse, housings, mounting parts)

	VisuNet PC415	VisuNet PC419
Display		
Screen size	15.0"	19.0"
Resolution	1024 x 768 (XGA)	1280 x 1024 (SXGA)
Type	LCD, TFT	LCD, TFT
Display colors	16.7 Mio	16.7 Mio
graphic memory	32 MB	32 MB
Brightness (Standard)	250 cd/m ²	300 cd/m ²
High Brightness (optional)	600 cd/m ²	—
Viewing angle	hor 170° (160°) ver 170° (115°)	hor 178° ver 178°
Contrast	400:1	1000:1
50% Life time CCFL display	50,000h	50,000h
PC System		
Processor	1.8 GHz, Pentium M	1.8 GHz, Pentium M
RAM	512 MB / 1 GB optional	512 MB / 1 GB optional
Hard disk	30 GB	30 GB
Interfaces		
Exe	1 x Fast Ethernet 1 x USB 1 x RS232 1 x RS485/422	1 x Fast Ethernet 1 x USB 1 x RS232 1 x RS485/422
I.S. Barcode reader	3 x USB 1 x TTY	3 x USB 1 x TTY
Controls		
Function-/Special keys	6+2	6+2
LED	3	3
Touch Screen (optional)	resistive, 8-wire-technology	resistive, 8-wire-technology
Ratings		
Power consumption	ca. 75 W	ca. 80 W
Supply voltage	24 V DC (20-30V) Ambient temp. operations	24 V DC (20-30V) -20 °C ... +50 °C
Ambient temp. operation (incl. keyboard heating)	-20 °C ... +50 °C	-20 °C ... +50 °C
Ambient temp. storage	-20 °C ... +60 °C	-20 °C ... +60 °C
Dimension (WxHxD)		
Dimensions	503 x 423 x 188 mm	537 x 457 x 188 mm
Cut out dimension	431 x 354 mm	466 x 389 mm
Weight (PC4xx)		
	ca. 38 kg	ca. 40 kg
Front plate		
Stainless steel	1.4301/ 304 1.4404/ 316L (optional)	1.4301/ 304 1.4404/ 316L (optional)
Degree of protection	IP66	IP66
Approvals		
ATEX	Ⓔ II 2G, Ex eq[ib] IIC T4	and Ⓔ II 2D, Ex tD A21 IP64 T85°C
IEC Ex	Zones 1, 21 (in preparation)	Zones 1, 21 (in preparation)
Others	on demand	on demand
External Housing (option)		
Stainless steel	1.4301/ 304 1.4404/ 316L (optional)	1.4301/ 304 1.4404/ 316L (optional)
Degree of protection	IP66	IP66
Weight (housing)	25-30 kg	25-30 kg

Panel-PC = operator panel + PC unit

This combination of an operator panel and a powerful, integrated PC unit provides an ideal platform for control and display panels with a customer-defined visualization system, for soft PLC systems, for client-server applications or for browser-based terminals.



VisuNet RM uses RDP!

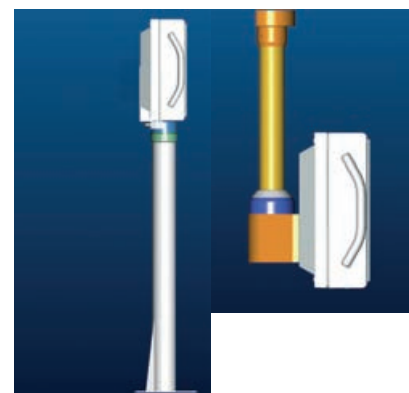
The VisuNet RM remote monitors for PC-based visualization of processes and plants are based on the popular and widely used Ethernet network technology and TCP/IP protocol that are already familiar to all Internet and intranet (corporate network) users and eliminates the need for the traditional KVM point-to-point topology. VisuNet opens up totally new and flexible opportunities for interfacing the monitors to the PC in the safe area.

The actual data transfer (screens, inputs, etc.) from the PC of the operator station to the remote monitor takes place over the network using TCP/IP packets. The functionality itself – the so-called remote desktop protocol (RDP) – is a standard integrated feature in the operating system (e.g., Windows XP Professional).

VisuNet RM, RM 515/519, REMOTE MONITOR STATION

The first PC Remote Monitor station based on network technology designed for use in process environment!

- Reduction of hardware components --- reduction of system cost
- Network technology --- Ethernet connectivity
- Front Access --- optimized installation and maintenance
- Modular concept --- customized solutions based on standard hardware components (display, keyboard, mouse, housing, mounting types)
- Open system platform --- integration into existing network infrastructure



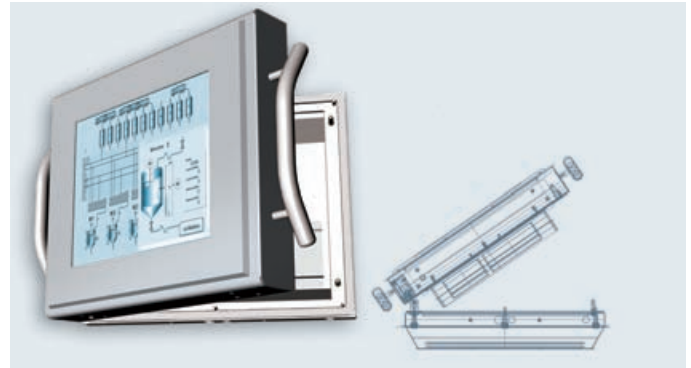
	VisuNet RM515	VisuNet RM519
Display		
Screen size	15.0"	19.0"
Resolution	1024 x 768 (XGA)	1280 x 1024 (SXGA)
Displayable resolution	640 x 480 to 1024 x 768	640 x 480 to 1280 x 1024
Type	LCD, TFT	LCD, TFT
Display colors	16.7 Mio.	16.7 Mio.
Brightness	250 cd/m ²	300 cd/m ²
High brightness (optional)	600 cd/m ²	—
Viewing angle	horizontal 170° (160°) vertical 170° (115°)	horizontal 178° vertical 178°
Contrast	400:1	1000:1
50 % Life time CCFL display	50,000 h	50,000 h
Interfaces		
Exe	1 x Fast Ethernet 1 x USB 1 x RS232 (option) 1 x RS485/422 (option)	1 x Fast Ethernet 1 x USB 1 x RS232 (option) 1 x RS485/422 (option)
I.S.	1 x USB (option)	1 x USB (option)
Keyboard, mouse	2 x USB	2 x USB
Touch screen	1 x USB	1 x USB
Barcode reader	1 x TTY	1 x TTY
Controls		
Touch screen (optional)	resistive, 8-wire technology	resistive, 8-wire technology
Ratings		
Power consumption	ca. 65 W	ca. 70 W
supply voltage	24 V DC (20-30 V)	24 V DC (20-30 V)
Ambient temp. operation (incl. keyboard heating)	-20 °C ...+50 °C	-20 °C ...+50 °C
Ambient temp. storage	-20 °C ...+60 °C	-20 °C ...+60 °C
Dimensions (WxHxD)		
Dimension	503 x 423 x 188 mm	537 x 457 x 188 mm
Cutout dimension	431 x 354 mm	466 x 389 mm
Weight		
	ca. 38 kg	ca. 40 kg
Front plate		
Stainless steel	1.4301/ 304 1.4404/ 316L (optional)	1.4301/ 304 1.4404/ 316L (optional)
Degree of protection	IP66	IP66
Approvals		
ATEX		Ex II 2G, Ex eq [ib] IIC T4 and Ex II 2D, Ex tD A21 IP64 T85°C
IEC Ex	Zones 1, 21 (in preparation)	Zones 1, 21 (in preparation)
Others	on demand	on demand
External Housing (option)		
Stainless steel	1.4301/ 304 1.4404/ 316L (optional)	1.4301/ 304 1.4404/ 316L (optional)
Degree of protection	IP66	IP66
Weight (housing)	25-30 kg	25-30 kg

VisuNet PC MODULS: HOUSING, KEYBOARD, ...

VisuNet has front access!

- Front access --- optimized accessibility for installation and maintenance
- Modular concept --- housing variants to meet customer requirements (Housing, barcode reader holder, scanner holder, option casing for emergency stop, indicator lamps, pushbuttons,...., mounting systems)
- Various stainless steel types --- 1.4301/304, 1.4404/316L (option)

Pedestals and brackets in stainless steel, fixed, turnable or tiltable, for floor, wall and ceiling mounting are standard components of the modular VisuNet concept.



Options

Mounting types

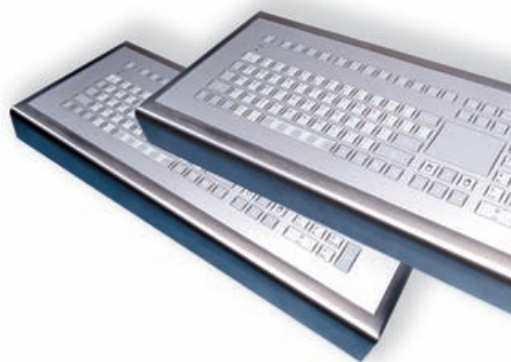
- Direct wall mount
- Pedestal
- Ceiling mount
- Support-Arm

Adapter options

- Adapter turnable
- Adapter tiltable

The optional housings of the VisuNet product family are compact, made entirely of stainless steel, designed to meet the toughest ergonomic requirements, and optimized for a wide variety of applications. The housings comply with an IP66 degree of protection. Customized versions are available.

I.S. keyboard/mouse systems! ... connect directly to VisuNet RM/PC systems!



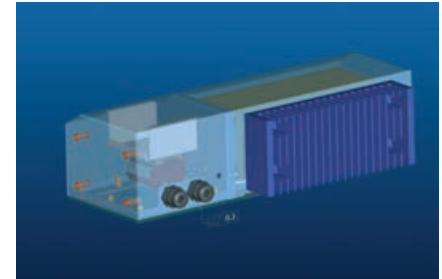
Description

Versions	
K1	Keyboard without mouse
K3	Keyboard with track ball mouse
K4	Keyboard with touch pad mouse
K5	Keyboard with optical track ball mouse (<i>zone 22 only</i>)
K6	Keyboard with joy stick mouse (<i>in preparation</i>)
...	further options on demand
Keyboard Layout	105 short travel keys, about 3 Mio strokes DE, US, FR, CN, DK, SE, ...
Dimensions (WxHxD)	
Dimension	482.6 x 177.8 x 45 mm
Cut out dimension	450 x 150 mm
Front plate	Anodized aluminum, polyester foil
Degree of protection	IP65 (K3 [not operated], K5, K6), IP66 (K4, K1)
Interfaces, I.S.	USB
Ratings	
Supply voltage	from VisuNet RM/PC
Ambient temp. operations	0 °C ... +50 °C (-20 °C ... +50 °C in combination with keyboard heating)
Ambient temp. storage	-20 °C ... +60 °C
Approvals	
ATEX	II 2G Ex ib IIC T4 II 2D, Ex ibD 21 T130°C (Zone 21 Dust) (-K1, -K4, -K6)
IEC Ex	Zones 1, 21 (<i>in preparation, depending to the keyboard type</i>)
Others	on demand
Housing (optional)	
Stainless steel	1.4301/ 304 1.4404/ 316L (optional)
Degree of protection	IP65 (K3 [not operated], K5, K6), IP66 (K4, K1)
Weight (housing)	5 kg

VisuNet OB, Optionsbox

VisuNet OB Options Box, the first modular extension concept designed for the hazardous area!

- Modular concept --- customized solutions based on standard components (power supply, media converter, network components,...)
- Stainless steel housing --- complies with the toughest requirements
- Approvals for hazardous area --- designed for process environment



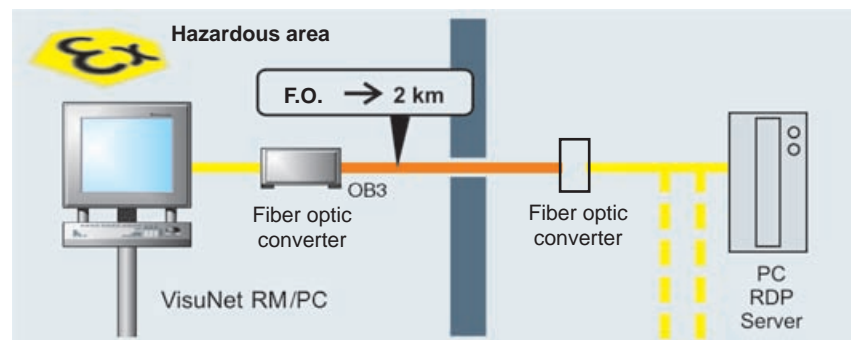
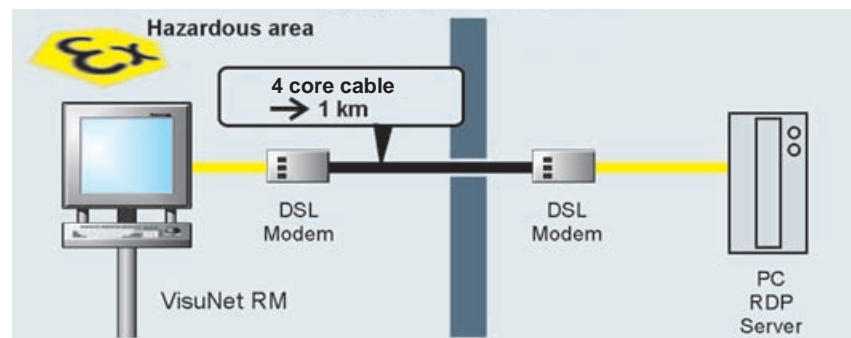
The VisuNet OBx Option Box, facilitates the implementation of customized requirements that include

- AC power supply
- Data transmission
- Network infrastructure
- Connectivity to user specific devices (WLAN accesspoint etc.)

Solution for long distances!

In general, long, nonsegmented distances, are bridged by:

- Isolated / noise free 2-wire fiber optic cable (max. 2000 m)
- Copper wire based broadband modem (max. 1000 m)



Description	OB11	OB31
Modul Concept AC power supply, 100-240 V +/- 10 %, 50 - 60 Hz Fiber optic converter + 4 port switch + PoE* Broadband modem (DSL) Others on demand	•	• • • •
Dimensions (WxHxB) Dimension	452 x 191 x 110 mm	450 x 285 x 226 mm
Approvals ATEX	Ex II 2G, Ex eq [ib] IIC T4 and Ex II 2D, Ex tD A21 IP 64 T85°C Zones 1, 21 (in preparation) on demand	Zones 1, 21 (in preparation) on demand
External Housing Stainless steel	1.4301/ 304	
Degree of protection	1.4404/ 316L (optional) IP65	
Weight	ca. 13 kg	ca. 22-26 kg

SCANEX, BARCODE READER SOLUTIONS FOR THE HAZARDOUS AREA

Industrial plant data collection for the process automation in the hazardous area

The SCANEX family of rugged, industry-standard, barcode reading systems from Pepperl+Fuchs is the ideal solution for computerized plant data collection in the hazardous area. It comprises an intrinsically safe, hand-held reader with a laser scanner and a hand-held reader with radio data transmission and a rechargeable battery for mobile applications while a stationary miniature scanner completes the product range. The barcode readers can be connected directly to VisuNet RM and PC systems.



EX-DRAGON-D101/D101-LR, I.S. cable barcode scanner

- II 2G, EEx ib IIC T4; II 3D T80 °C IP53
- Temperature range: 0 °C to +40 °C
- Reading distance: 60 - 1100 mm
- Degree of protection: IP53

EX-DRAGON-M101, I.S. radio barcode scanner

- II 2G, Ex ib IIC T4, II 3D, Ex T80 °C IP53
- Temperature range: 0 °C bis +40 °C
- Reading distance: ca. 60 - 1100 mm
- Approx. 30.000 readings with one battery charge
- Radio radius: max. 50 m
- Radio frequency: 433.92 Mhz (Europe)
- Transmitting power: 10 mW
- Degree of protection: IP53

EXOM-DRAGON, I.S. radio base station

- II 2G, EEx ib IIC T4, II 3D, EEx T80 °C IP53
- Temperatur range: 0 °C to +50 °C
- Connection distance: max. 230 m to VisuNet RM/PC

Worldwide/German Headquarters

Pepperl+Fuchs GmbH
Mannheim • Germany
Tel. +49 621 776 2222
E-mail: pa-info@de.pepperl-fuchs.com

North/Central America Headquarters

Pepperl+Fuchs Inc.
Twinsburg • Ohio • USA
Tel. +1 330 486 0002
E-mail: pa-info@us.pepperl-fuchs.com

Asia Pacific Headquarters

Pepperl+Fuchs Ltd.
Singapore
Tel. +65 6779 9091
E-mail: pa-info@sg.pepperl-fuchs.com

Northern Europe Headquarters

Pepperl+Fuchs GB Ltd.
Oldham • England
Tel. +44 161 6336431
E-mail: pa-info@gb.pepperl-fuchs.com

Western Europe & Africa Headquarters

Pepperl+Fuchs N.V.
Schoten/Antwerp • Belgium
Tel. +32 3 6442500
E-mail: pa-info@be.pepperl-fuchs.com

Southern/Eastern Europe Headquarters

Pepperl+Fuchs Elcon srl
Sulbiate • Italy
Tel. +39 039 62921
E-mail: pa-info@it.pepperl-fuchs.com

Middle East/India Headquarters

Pepperl+Fuchs M.E. (FZE)
Dubai • UAE
Tel. +971 883 8378
E-mail: pa-info@ae.pepperl-fuchs.com

Southern America Headquarters

Pepperl+Fuchs Ltda.
São Bernardo do Campo • Brazil
Tel. +55 11 4339 9935
E-mail: pa-info@br.pepperl-fuchs.com

www.pepperl-fuchs.com

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