FACTORY AUTOMATION

System Accessories

for Mounting and Connection

PEPPERL+FUCHS

Installing sensors simply and economically!

We have the answer!

Suitably tailored accessories for the fixing and connection of sensors offer the user enormous potential for rationalisation. Such accessories not only save time during initial commissioning – they also save much time and work particularly when sensors have to be serviced or replaced. And when demanding ambient conditions make the going tough, the right accessory from Pepperl+Fuchs can also significantly increase the useful operating life of your sensor components. Could one ask for more?

Mechanical Mounting Systems

In most applications, the installation and mounting costs exceed the material costs. The costs can be reduced considerably by selecting the right mounting system. “Selfmade” mounting brackets to fit an application only appear to be economical at first.

In addition to our proven mounting and installation accessories for the VariKont, VariKont L and VariKont M series, a wide range of mounting systems is available for universal installation. We also have compatible mounting brackets for VariKont and VariKont L sensors for standard DIN rails, used in electronic overhead conveyor systems. Their advantages include rapid adjustment and highly flexible installation options.

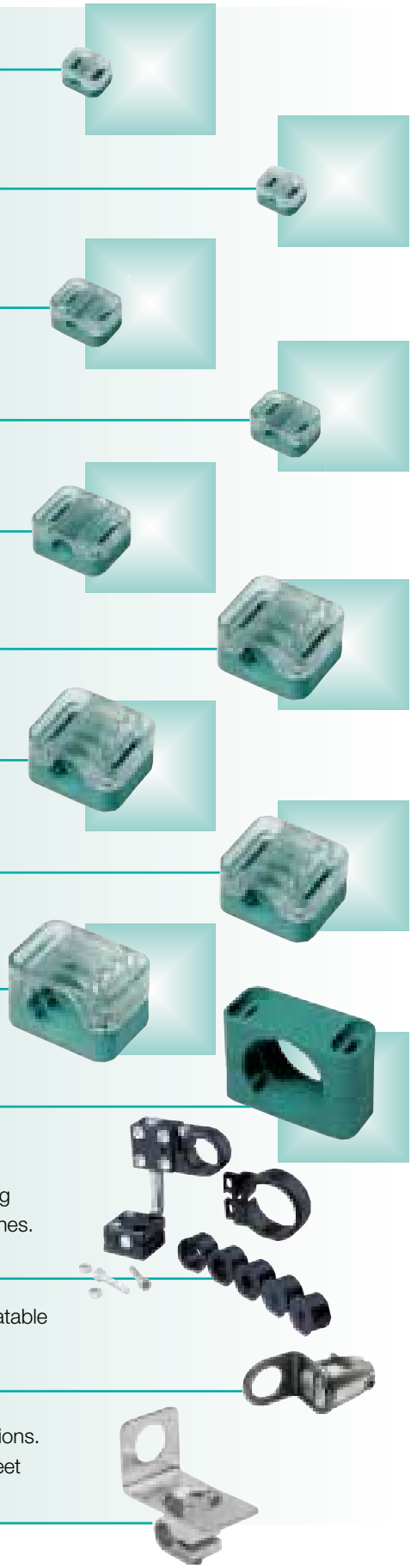
In many cases, the locations where the sensors are to be mounted are hard to reach. We therefore use set screws that do not drop out of their respective components.

Now that's user friendly!

Mounting flanges for cylindrical sensors with adjustment facility

The adjustable flanges (BF) for mounting cylindrical sensors directly on plane surfaces, can be adjusted with two screws.

Order code	Ø (mm)	Height (mm)	Width (mm)	Length (mm)	Suitable Cylinder Screws
BF 4	4	10	18	15	M3 x 15
BF 4,5	4.5	10	18	15	M3 x 15
BF 5	5	10	18	15	M3 x 15
BF 6,5	6,5	13	26	20	M3 x 15
BF 8	8	13	26	20	M3 x 15
BF 11	11	19	36	30	M4 x 20
BF 12	12	19	36	30	M4 x 20
BF 18	18	24	44	40	M5 x 25
BF 30	30	36	56	40	M5 x 40
BF 40	40	45	66	30	M5 x 45



BF 5-30	The universal BF 5-30 mounting set is suited for cylindrical sensors with a diameter of 5, 8, 12, 18 and 30 mm by using spacers. The sensors can be turned within 360° at two planes.
MH01-M18	For fixing M18 initiators to 12 mm round steel sections, rotatable around 2 axes, sensor adjustable
OHM-04	For fixing M18 initiators to 12 mm diameter round steel sections. Adjustable in all directions – and suitable for clamping to sheet metal components.

Mounting flanges for cylindrical initiators, with fixed stop

The fixed stop simplifies replacement of the initiators, since the adjustment made on initial installation, using two elongated holes, is retained. Range of adjustment: max. 8 mm.

Order code	Ø (mm)	Height (mm)	Width (mm)	Length (mm)	Suitable Cylinder Screws
BF 12-F	12	18	24	30	M4 x 15
BF 18-F	18	24	30	30	M4 x 20
BF 30-F	30	35	41	35	M4 x 35

Improved protection with the cable protectors

Cable protectors and washers protect cables against physical damage and corrosion. Cable protectors and washers are available for sensors with M8, M12, M14, M18 and M30 threads.

Mounting accessories for the VariKont, VariKont M and VariKont L series

MH 04-2681
Mounting accessory
for mounting all sensors of the
VariKont series on the C-DIN rail
(EN 50024 or DIN 43662).

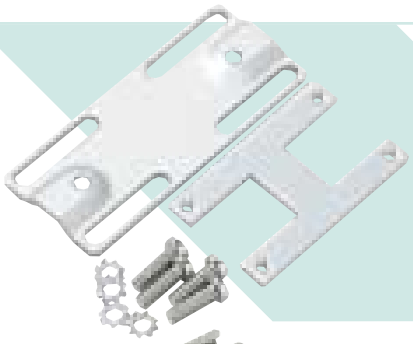
ADVANTAGES

- 20 mm adjustment range
- 360° turning range
- Prewired sensor can be adjusted

MH 04-3742
Mounting accessory for
mounting all sensors of the
VariKont M series.

ADVANTAGES

- 12 mm adjustment range
- Prewired sensor can be adjusted



MH 04-2057
Mounting accessory for
mounting all sensors of the
VariKont series.

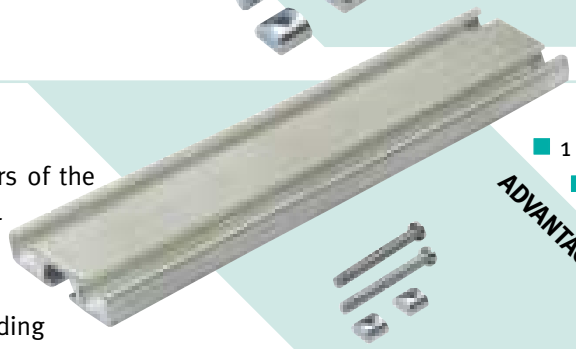
ADVANTAGES

- 30 mm adjustement range
- Prewired sensor can be adjusted

MH 02-L
Mounting accessory for
mounting all sensors of the
VariKont L series on the
C-DIN rail (EN 50024 or DIN 43662).

ADVANTAGES

- 60 mm adjustement range
- Prewired sensor can be adjusted

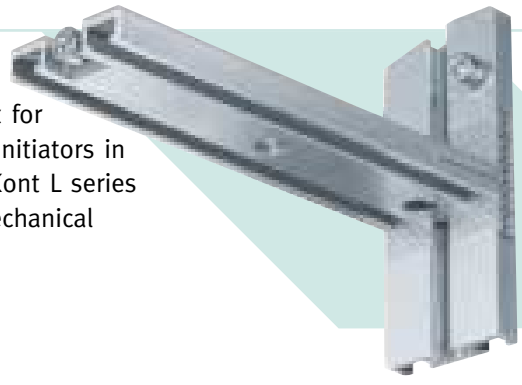


MH 03-U1/L
Mounting accessory for
mounting all the sensors of the
VariKont and VariKont L
series.

MHZ 03-U1/L
Suitable screws and sliding
blocks for fixing VariKont and
VariKont L sensors.

ADVANTAGES

- 1 Metre rail section
- The initiators are simply slid along the profiled slot
- Initiators can be arranged as required
- Component set MHZ 03-U1/L is required



MHW 01
Modular angle bracket for
the installation of all initiators in
the VariKont and VariKont L series
on profiled rails in mechanical
handling systems.

ADVANTAGES

- Simple fixing to rail sections
- Flexible attachment and simple adjustment in all three axial directions
- Height: 107 mm, sensor attachment bracket: 155 mm Other dimensiones available on request

Electrical connection accessoiries for AS-Interface

VAZ-FK-CL1

Mounting clip for mechanical fastening of AS-Interface flat cable via an adhesive surface at the rear

VAZ-2FK-B1

Distributor for 2 AS-Interface flat cables (protection class IP65) with screw fastening

VAZ-T1-FK-1M-V1-G
VAZ-T1-FK-2M-V1-G
VAZ-T1-FK-1M-V1-W
VAZ-T1-FK-2M-V1-W

Pre-assembled connection cable from AS-i flat cable to M12 cable entry socket (1 resp. 2 m lead in angled (...-W) or straight (...-G) version

VAZ-T1-FK-V1

M12x1 cable connection to AS-Interface flat cable (protection class IP67) with spring clips and screw fastening

VAZ-T1-FK-W-PG7

Non pre-assembled connector plug with PG7 cable gland for the AS-i flat cable

VAZ-G6F-V1

M12x1 cable connection to AS-Interface flat cable (protection class IP67) with screw fastening

VAZ-2T5-G2

Splitter boxes for flat cable to 5 M12 cable entry sockets to IP67 with LED indicator for AS-Interface and auxiliary power

VAZ-FK-S-YE
VAZ-FK-S-BK
VAZ-FK-R-YE
VAZ-FK-R-BK

AS-i flat cable in rubber version (...-S-...) and oil resistant PUR version (...-R-...) in yellow (...-YE-...) and black (...-BK-...), in 100 m rings each

VAZ-G6F-W2M

2 m outgoing cable with 2 x 1.5 mm² core cross-section from AS-Interface flat cable for connecting sensors with AS-Interface capability (protection class IP67)

VAZ-T1-FK-PG9
VAZ-T1-FK-PG11
VAZ-T1-FK-PG13,5
VAZ-T1-FK-M20

Cable connection for AS-Interface flat cable to PG9, PG 11 or PG 13,5 resp. M20 cable gland (protection class IP67)

VAZ-T1-G2F

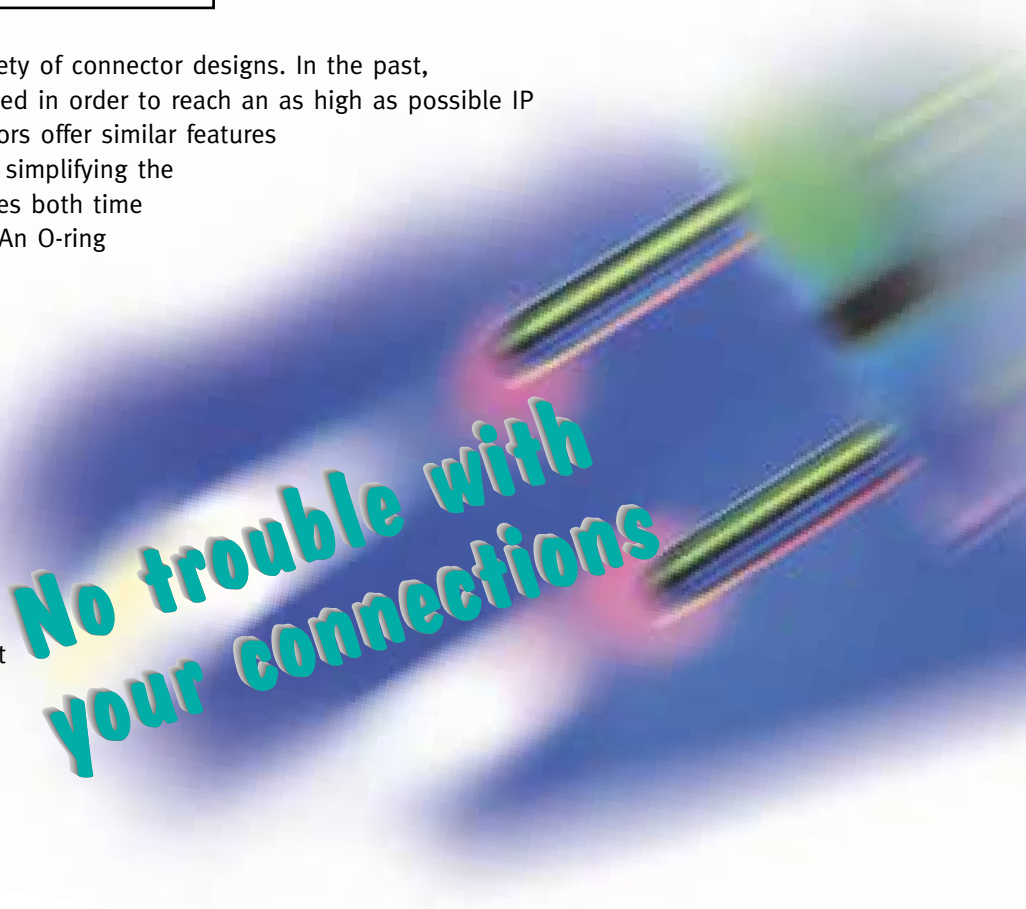
Non pre-assembled outgoing cable housing of AS-Interface flat cable (protection class IP52) for core cross-sections 0.14 mm² ... 0.34 mm² and sheath diameters between 5 mm and 6 mm

VAZ-2T1-FK-1M-W-V1
VAZ-2T1-FK-2M-W-V1

1 or 2 m outgoing cable with pre-assembled M12 x 1 mating connector from AS-Interface flat cable with parallel power supply

Electrical Connectors

Sensors are available with a variety of connector designs. In the past, sensors with cable were often used in order to reach an as high as possible IP protection class. Today's connectors offer similar features with the additional advantage of simplifying the replacement of sensors. This saves both time and money during maintenance. An O-ring was added to our latest mating connectors herewith increased immunity to vibration is guaranteed according to DIN EN 60068-2-6 and a tighter connection even on vibrating machinery parts is ensured.
On applications involving many sensors in a confined space, splitter boxes are used in order to avoid the requirement for cable looms, the replacement of defective components and to retain as flexible a layout as possible.



Technical data for plug connectors with moulded cable

Plug Connectors and Sockets	
Locking with self-locking	via NBR O-Ring in CuSn/Ni cap nut
Material of handle	PUR
Material of contacts/coating	CuSn/Au
Protection class acc. to DIN 40050	IP68 in screwed state
Max. operating voltage	60 V DC or 250 V AC (for V13-... types)
Max. operating current	4 A
Volume restistance	< 5 mΩ
Insulation resistance	acc. to VDE 0295
Test voltage	1500 $V_{eff.}$ AC, 50 Hz

Cable		
Cable structure	finely stranded, flexible	
Core cross-sections	Cables for M8 connections:	0.25 mm²
	Cables for M12 connections:	0.34 mm²
	but NAMUR mating connectors:	0.50 mm²
Temperature range for PVC conductors	moving:	-5 °C ... +70 °C
	non-moving:	-30 °C ... +80 °C
Temperature range for PUR conductors[1)]	moving:	-5 °C ... +70 °C
	non-moving:	-30 °C ... +100 °C
Minimum permissible bending radius	10 x conductor diameter	
Sheat diameter	4,6 mm for M8 and 4,8 mm for M12, but 5.2 mm for 5-pin version	

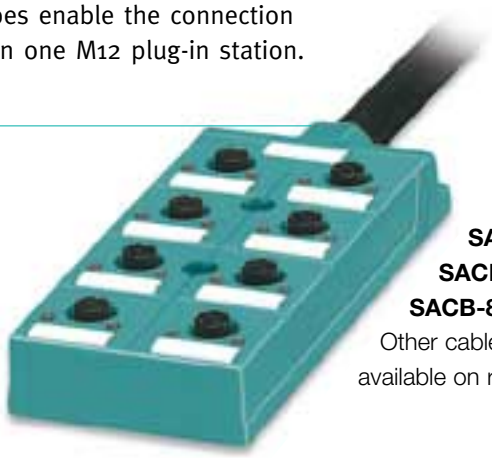
[1)] Please note reduced mechanical values for PUR cables at temperatures over +80 °C.

Splitter boxes with M12 plug-in stations for initiators and actuators

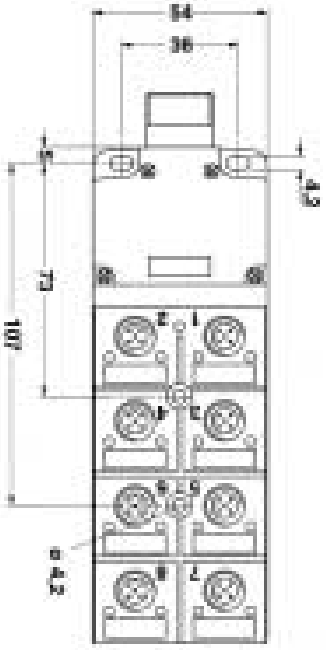
Splitter boxes offer an economically-priced, space-saving option, with the emphasis on speed and the ability to install many initiators and actuators in a confined space in protection category IP67. There is a choice between versions with the main cable, cage spring connection and M23 plug connection with 4 or 8 M12 plug-in stations. All types are suitable for pnp sensors/actuators. The double-configuration types enable the connection of 2 initiators or actuators on one M12 plug-in station.

Sensor-actuator box
with basic cable,
with LEDs,
in single-configuration, with
4 and 8 plug-in stations

Dimensions (L x B x H) in mm
82 x 54 x 18.5 (4-way)
126.5 x 54 x 18.5 (8-way)



SACB-4/4-L-5,0 PUR (cable length 5 m)
SACB-4/4-L-10,0 PUR (cable length 10 m)
SACB-8/8-L-5,0 PUR
SACB-8/8-L-10,0 PUR
Other cable lengths
available on request



Fixing hole template

Sensor-actuator box
with cage-clamp terminals,
with LEDs, in twin configuration,
with 4 and 8 plug-in stations

Dimensiones (L x B x H) in mm
116.5 x 54 x 32 (4-way)
155.0 x 54 x 32 (8-way)

SACB-4/8-L-SC
SACB-8/16-L-SC

Sensor-actuator box
with M23 plug connection,
with LEDs, in single configuration,
with 4 and 8 plug-in stations

Dimensiones (L x B x H) in mm
110 x 54 x 33.5 (4-fach)
163 x 54 x 33.5 (8-fach)

SACB-4/4-L-M23
SACB-8/8-L-M23

V15S-T-V15

Y-Splitter for twin-configured sensor-actuator boxes
2:1-splitter, pin 2+4 jumpered,
for the connection of 2 sensors (N.O. or N.C.)
via 2 x M12-sockets, 5-pin
to M12 connector, 5-pin

9416 12 pole,
clockwise rotating, PG9

Mounting aid for the top-hat section rail,
for splitter boxes with 4
or 8 plug-in stations

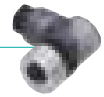
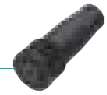
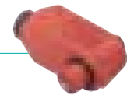
MH 05-SACB-8

VAZ-V1-B

Blanking cap for unoccupied
M12 plug-in stations

MH 05-SACB-4

Field-configurable connectors in M8, M12, M18 and Rd24 x 1/8

Design	Order code	Design	Connection type	Number of pins	Core Cross-Section (mm²)	
M8	**V3-G**	Socket, straight	Insulation piercing	3-pin	0.25...0.34	
	V3-W	Socket, angled	Insulation piercing	3-pin	0.25...0.34	
	V3S-GM	Connector, straight	Insulation piercing	3-pin	0.25...0.34	
M12	**V1-G**	Socket, straight	Screw terminal, PG7 cable gland	4-pin	max. 2.5	
	V1-W	Socket, angled	Screw terminal, PG7 cable gland	4-pin	max. 2.5	
	V1S-G	Connector, straight	Screw terminal, PG7 cable gland	4-pin	max. 2.5	
	V1S-W	Connector, angled	Screw terminal, PG7 cable gland	4-pin	max. 2.5	
	V1-E/E2-LED	LED board (npn/pnp)	suitable for mounting in V1-G and V1-W	–	–	
	V1-G-Q2	Socket, straight	insulation piercing	4-pin	max. 0.75	
	V1S-G-Q2	Connector, straight	insulation piercing	4-pin	max. 0.75	
	V15-W-PG9	Socket, straight	Screw terminal	5-pin	max. 0.75	
Rd 24 x 1/8 (Binder Series 692)	**V16-G**	Socket, straight	Screw terminal	6-pin + PE	max. 0.75	
	V16S-G	Connector, straight	Screw terminal	6-pin + PE	max. 0.75	
M18	**V18-G**	Socket, straight	Screw terminal	4-pin	max. 1.5	
	V18-W	Socket, angled	Screw terminal	4-pin	max. 1.5	
with central srew	**V-W**	Socket, angled	Screw terminal	5-pin	max. 2.5	
	V-W-E2	Socket, angled	Screw terminal, with integrated LED	5-pin	max. 2.5	
	V-W-N	Socket, angled	Screw terminal	5-pin	max. 2.5	

M8 type mating connectors with metal cap nuts

Suitable for sensors with 2-, 3- or 4 wires

Cable Sheath	Length	Number of cores	Ø (mm²)	Pin assignment	Design straight	Design angled	Design angled, with 2 LEDs
PUR,	2 m	3	0.25		**V3-GM-2M-PUR**	**V3-WM-2M-PUR**	**V3-WM-E2-2M-PUR**
grey	5 m	3	0.25		**V3-GM-5M-PUR**	**V3-WM-5M-PUR**	**V3-WM-E2-5M-PUR**
	10 m	3	0.25		**V3-GM-10M-PUR**	**V3-WM-10M-PUR**	**V3-WM-E2-10M-PUR**
PVC,	2 m	3	0.25		**V3-GM-2M-PVC**	**V3-WM-2M-PVC**	
grey	5 m	3	0.25		**V3-GM-5M-PVC**	**V3-WM-5M-PVC**	
	10 m	3	0.25		**V3-GM-10M-PVC**	**V3-WM-10M-PVC**	
PUR,	2 m	4	0.25		**V31-GM-2M-PUR**	**V31-WM-2M-PUR**	
grey	5 m	4	0.25		**V31-GM-5M-PUR**	**V31-WM-5M-PUR**	
	10 m	4	0.25		**V31-GM-10M-PUR**	**V31-WM-10M-PUR**	
PVC,	2 m	4	0.25		**V31-GM-2M-PVC**	**V31-WM-2M-PVC**	
grey	5 m	4	0.25		**V31-GM-5M-PVC**	**V31-WM-5M-PVC**	
	10 m	4	0.25		**V31-GM-10M-PVC**	**V31-WM-10M-PVC**	
PUR	2 m	3	0.25			**V3S-GM-2M-PUR**	
grey	5 m	3	0.25			**V3S-GM-5M-PUR**	
						(male version)	

M12 type mating connectors for AC sensors

Suitable for AC sensors with 2 wires

Cable sheath	Length	Number of cores	Ø (mm²)	Pin assignment	Design straight	Design straight
PUR	5 m	3	0.34		**V13-G-5M-PUR**	**V13-W-5M-PUR**

M12 type mating connectors for DC sensors

Suitable for DC sensors with 2-, 3- or 4 wires

Cable sheath	Length	Number of cores	Ø (mm²)	Pin assignment	Design straight	Design angled	Design angled with 2 LEDs
PVC, grey	2 m	4	0.34		**V1-G-2M-PVC**	**V1-W-2M-PVC**	
	5 m	4	0.34		**V1-G-5M-PVC**	**V1-W-5M-PVC**	
	10 m	4	0.34		**V1-G-10M-PVC**	**V1-W-10M-PVC**	
PUR, grey	2 m	4	0.34		**V1-G-2M-PUR**	**V1-W-2M-PUR**	**V1-W-A2-2M-PUR**
	5 m	4	0.34		**V1-G-5M-PUR**	**V1-W-5M-PUR**	**V1-W-A2-5M-PUR**
							V1-A0-5M-PUR
							V1-W-E2/E3-5M-PUR
	10 m	4	0.34		**V1-G-10M-PUR**	**V1-W-10M-PUR**	**V1-W-A2-10M-PUR**
PUR, PVC, grey	2 m	3	0.34		**V11-G-2M-PVC**	**V11-W-2M-PVC**	**V1-W-E2-2M-PUR**
	5 m	3	0.34		**V11-G-5M-PVC**	**V11-W-5M-PVC**	**V1-W-E2-5M-PUR**
					V11-G-10M-PVC	**V11-W-10M-PVC**	**V1-W-E-5M-PUR** (npn)
	10 m	3	0.34				**V1-W-E2-10M-PUR**
PVC, grey	2 m	5	0.34		**V15-G-2M-PVC**	**V15-W-2M-PVC**	
	5 m	5	0.34		**V15-G-5M-PVC**	**V15-W-5M-PVC**	
	10 m	5	0.34		**V15-G-10M-PVC**	**V15-W-10M-PVC**	
PUR, grey	2 m	5	0.25		**V15-G-2M-PUR**	**V15-W-2M-PUR**	
	5 m	5	0.25		**V15-G-5M-PUR**	**V15-W-5M-PUR**	**V15-W-E2-5M-PUR**
	10 m	5	0.25		**V15-G-10M-PUR**	**V15-W-10M-PUR**	

Versions with halogen free and irradiated coating available as …-PUR H/S

M12 type mating connectors for NAMUR sensors

Suitable for NAMUR sensors Handle and cable sheath in blue

Cable sheath	Length	Number of cores	Ø (mm²)	Pin assignment	Design straight	Design angled
PVC, blue	5 m	4	0.5			**V1-W-N4-5M-PVC**
	10 m	4	0.5			**V1-W-N4-10M-PVC**
PUR, blue	2 m	2	0.5		**V1-G-N-2M-PUR**	**V1-W-N-2M-PUR**
	5 m	2	0.5		**V1-G-N-5M-PUR**	**V1-W-N-5M-PUR**
	10 m	2	0.5		**V1-G-N-10M-PUR**	**V1-W-N-10M-PUR**

M12 connecting cable 4 x 0.34 mm²

Suitable for all DC sensors with 2-, 3- or 4 wires

	Length	Socket, straight	Socket, angled
Connector, straight	0,6 m	**V1-G-0,6M-PUR-V1-G**	**V1-W-0,6M-PUR-V1-G**
PUR, grey	1 m	**V1-G-1M-PUR-V1-G**	**V1-W-1M-PUR-V1-G**
	2 m	**V1-G-2M-PUR-V1-G**	**V1-W-2M-PUR-V1-G**
	5 m	**V1-G-5M-PUR-V1-G**	**V1-W-5M-PUR-V1-G**
	10 m	**V1-G-10M-PUR-V1-G**	**V1-W-10M-PUR-V1-G**
Connector, straight	0,6 m	**V1-G-0,6M-PVC-V1-G**	
PVC, grey	1 m	**V1-G-1M-PVC-V1-G**	
	2 m	**V1-G-2M-PVC-V1-G**	
	5 m	**V1-G-5M-PVC-V1-G**	
	10 m	**V1-G-10M-PVC-V1-G**	

M12 conecting cable: halogenfree, IR-networked, sheath colour orange.
All types as above, but specially suited for short-term temperature peaks e.g. by welding sparks in the automative industry.

M12 type male connector for DC sensors

Suitable for all DC sensors with 2-, 3- or 4 wires for the connection of splitter and AS-Interface boxes

Cable sheath	Length	Number of cores	Ø (mm²)	Pin assignment	Connector, straight	Connector, angled
PUR,	2 m	4	0.34		**V1S-G-2M-PUR**	**V1S-W-2M-PUR**
grey	5 m	4	0.34		**V1S-G-5M-PUR**	**V1S-W-2M-PUR**

Technical data for splitter box

Nominal voltage		24 V DC
max. permissible operating voltage		30 V DC
max. current loading per channel		2 A
max. current loading per mounting station		4 A
max. current loading in total		12 A
Operating current for LED indicators per channel		≤ 5 mA
Number of poles per mounting station (single/twin configuration)		4/5
Protection class in accordance with IEC 60529/EN 60523/DIN VDE 0470-1 IP65/IP67		IP65/IP67
Ambient temperature (non-moving)		-40 °C … +75 °C (Cable: -30 °C … +90 °C)
Ambient temperature (moving)		-5 °C … +70 °C
Housing material		Crastin® (PTB)
Flammability classification in accordance with UL 94		V0
Contact material		brass, tin plated
Conductor cross-sections	(Cable version)	0.34 mm^2 (Supply: 0.75 mm^2)
	(Clamping version)	0.14 mm^2 … 1 mm^2 (Supply: 0.2 mm^2 … 1.5 mm^2)
Cable diameter	(with main cable)	8.7 mm (4-way) and 9.2 mm (8-way)
	(Clamping version)	6.5 mm … 9.5 mm

Simplifying Maintenance

Our battery operated test equipment allows the customer to diagnose sensors without the need for an external power supply. Each test device indicates the switch status of sensors by means of visual as well as audible signals. Even sensors that are difficult to inspect or examine can be quickly and easily tested. Faults can therefore be localized and the respective components replaced. In addition, sensors can be adjusted before electrical installation has been completed.

ST 03

FEATURES

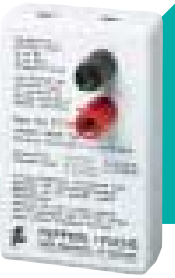
- 2 LED display to indicate the switch status of npn and pnp sensors
- 3 connection terminals for 0 V and 18 V and test output
- Used to test all 2-, 3- and 4-wire DC sensors as well as NAMUR output sensors (not suitable for Ex conditions)
- Max load current 100 mA
- Two 9 V batteries included

1-1350

FEATURES

- 5 LED display to indicate the switch status
- 4 connection terminals for 0 V and 18 V (pulsed, test outputs 1 and 2)
- Used to test all 2-, 3- and 4-wire AC and DC sensors
- Test function control/battery test
- Two 9 V batteries included

2/Ex



FEATURES

- Suited for use in hazardous areas
- PTB approved
- LED display
- Rechargeable battery included (compatible charger: LG-39729)
- 2 terminals for the connection of the power supply

ADVANTAGES

- Easy maintenance
- Visual and audible alarms
- Portable, battery operated test equipment
- Sensor adjustment before completion of electrical installation
- Detection of connection/wiring faults
- Test function control/battery test
- Two 9 V batteries included

Signals for the world of automation

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