



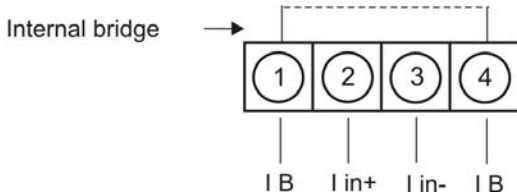
Digital panel meter 4-digit

M1 current loop

- red display of -1999...9999 digits
- minimal installation depth: 27 mm without plug terminal
- min-/max-value recording
- 10 adjustable setpoints
- optical threshold value indication
- tara- / offset value calibration
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug-in terminal

Digital panel meter

- current loop device, direct current



ORDER NUMBER
(without options)

EUR

M1-7SR4A.0001.K70A0 120,00

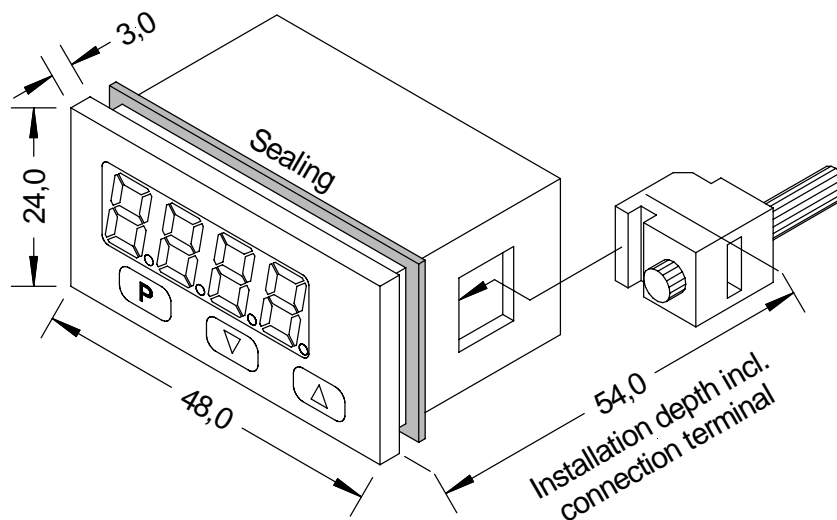
Ordering code

M 1-7 S R 4 A. 0 0 0 1. K 7 0 A 0	
Basic type M-Line	Dimension 0 without
Installation depth short 1	Version A A
Housing size 48 x 24 x 27 mm 7 without plug terminal	Setpoints 0 without
Display type Current loop S	Protection 7 IP65/plug terminal
Display colour Red R	Supply voltage K via current
Number of digits 4-digit 4	Measuring input 1 Direct current 4-20 mA
Digit height 10 mm A	Analog output 0 without
Interface without 0	Sensor supply 0 without

Technical data

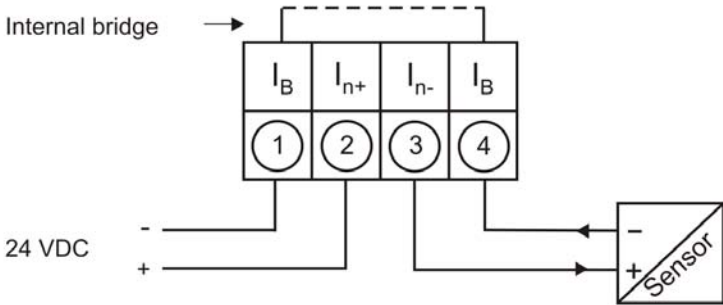
Dimensions	Housing	B48 x H24 x D27 mm, (incl. Plug terminal D=54 mm)
	Panel cut-out	45.0 ^{+0.8} x 22.2 ^{+0.6} mm
	Fixing	screw elements for insulation thickness up to 3 mm
	Housing material	PC Polycarbonat, black
	Sealing material	EPDM, 65 Shore, black
	Protection class	front IP65 standard rearside IP00
	Weight	approx. 50 g
	Connection	plug terminal; line cross section up to 2.5 mm ²
Display	Digit height	10 mm
	Segment colour	red
	Display range	-1999 to 9999
	Setpoints	optical display flashing
	Overflow	horizontal bars at the top
	Underflow	horizontal bars at the bottom
	Display/measuring time	0.1 to 10.0 seconds
Measuring input	Input	min. 3.5...max. 21 mA
	Measuring range	4-20 mA
	Measuring fault	0.3% of measuring range, ± 1 digit
	Fail of voltage	approx. 5.1 V
		Measuring range / measuring fault at measuring time = 1 second
	Temperature drift	100 ppm/K
	Measuring principle	successive approximation
	Resolution	12 Bit-converter
		14 Bit (noiseless by oversampling at 1 s measuring time)
Memory		Flash-memory (independent of supply)
	Data life	> 100 years
Ambient conditions	Working temperature	0 to + 60 °C
	Storing temperature	-20 to + 80 °C
	Climatic density	relative humidity 0-80% on years average without dew
EMV	DIN 61326	
CE-sign	Conformity to 89/336/EWG	
Safety standard	DIN 61010	

Housing:

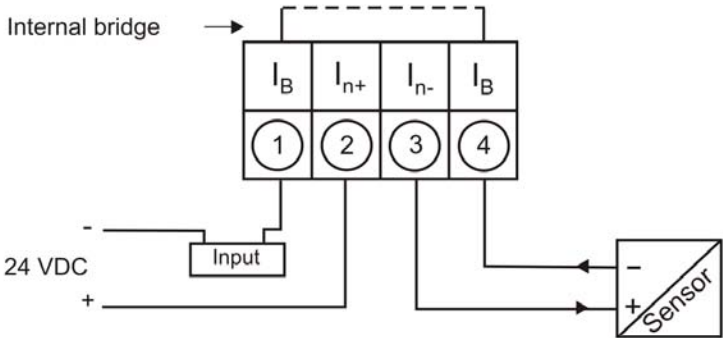


Connection pictures

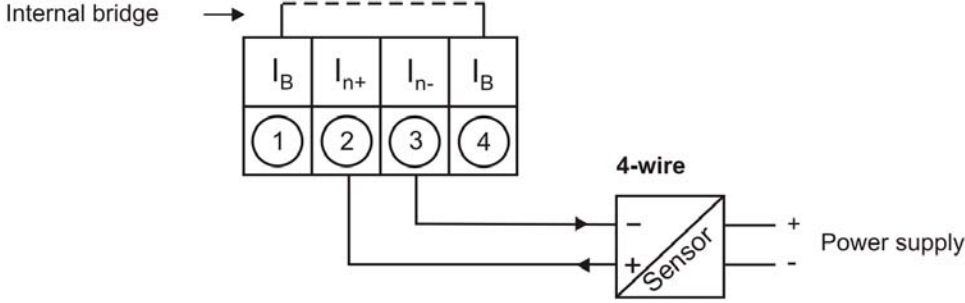
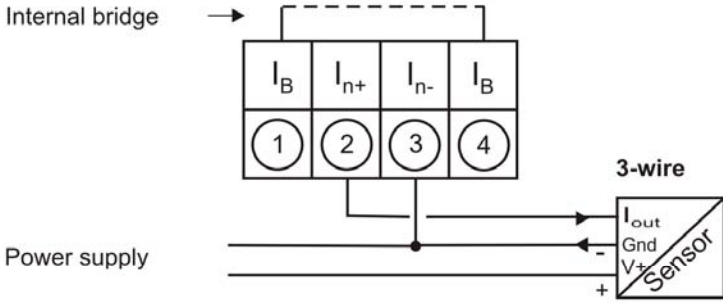
Current loop device in combination with a transmitter in current loop technique:



Current loop device in combination with another measuringout with low burden:



Current loop device in combination with a 3-/4-wire sensor:





Digital panel meter 4-digit

M1

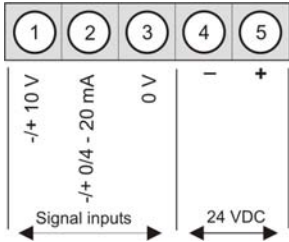
- red display of -1999...9999 digits (optional green, orange or blue display)
- minimal installation depth: 27 mm without terminal plug
- min-/max-value recording
- 10 adjustable setpoints
- display flashing at threshold exceedence / undershooting
- tara-function
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug-in terminal

Digital panel meter

- Direct current
- Potentiometer
- Thermocouple
- Direct voltage
- Resistance
- Frequency
- Shunt
- PT100



• Direct current, direct voltage



Supply 24 VDC

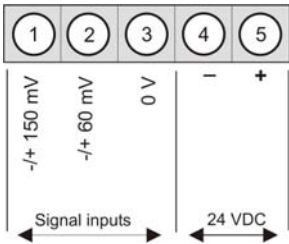
ORDER NUMBER
(without options)

EUR

M1-7VR4A.0001.770A0

125,00

• Direct voltage (Shunt)

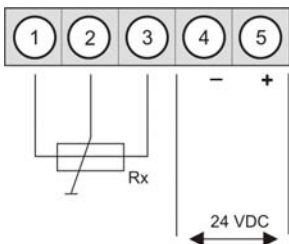


Supply 24 VDC

M1-7VR4A.0002.770A0

150,00

• Potentiometer (1 kΩ ... 100 kΩ)

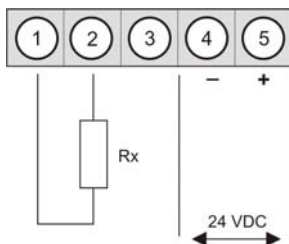


Supply 24 VDC

M1-7VR4A.0005.770A0

150,00

• Resistance (1 kΩ, 10 kΩ, 100 kΩ or 1 MΩ)



Supply 24 VDC (Measuring range 10 kΩ)

M1-7VR4A.0006.770A0

150,00

Supply 24 VDC (Measuring range 10 kΩ)

M1-7VR4A.0606.770A0

150,00

Supply 24 VDC (Measuring range 100 kΩ)

M1-7VR4A.0706.770A0

150,00

Supply 24 VDC (Measuring range 1 MΩ)

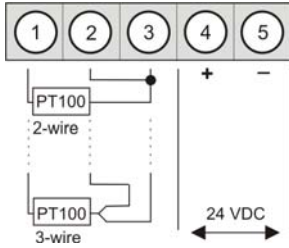
M1-7VR4A.0806.770A0

150,00

ORDER NUMBER
(without options)

EUR

• **PT100 (2-/3- wire) -200°C ... 850°C**

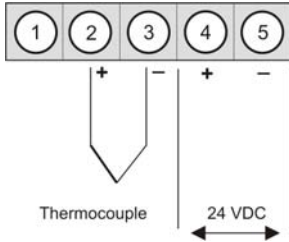


Supply 24 VDC

M1-7TR4A.030C.770A0

153,00

• **Thermocouple type B, E, J, K, L, N, R, S, T**

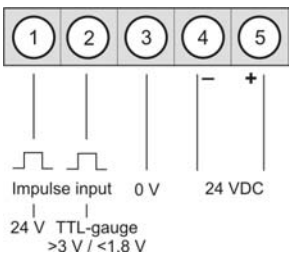


Supply 24 VDC

M1-7TR4A.040X.770A0

160,00

• **Frequency**



Supply 24 VDC
In preparation

M1-7FR4A.0007.770A0

Technical data

Dimension	Housing	B48xH24xD27 mm (including plug-in terminal D= 54 mm)		
	Panel cut-out	45.0 ^{+0.8} x 22.2 ^{+0.6} mm		
	Fixing	screw elements for insulation thickness up to 3 mm		
	Housing material	PC Polycarbonat, black		
	Sealing material	EPDM, 65 Shore, black		
	Protection class	at the front IP65 standard, backside IP00		
	Weight	approx. 50 g		
	Connection	Plug terminal; line cross-section up to 2.5 mm ²		
Display	Display	4-digit		
	Digit height	10 mm		
	Segment colour	Red (standard), optional available in green, blue and orange		
	Display range	-1999 to 9999		
	Setpoints	optical display flashing		
	Overflow	horizontal bars at the top		
	Underflow	horizontal bars at the bottom		
	Display time/ Measuring time	0.1 to 10.0 seconds		
Measuring input <i>M1-7VR4B.0001...</i> <i>Direct current /</i> <i>Direct voltage</i>	Span	-12...12 V	/ -22...24 mA	
	Measuring range	0-10 V	/ 0/4-20 mA	
	Input resistance	Ri at ~100 kΩ	/ Ri at ~100 Ω	
	Measuring fault	0.1% of measuring range, ± 1 Digit / 0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
	Resolution	approx. 18 Bit at 1s measuring time		
	Measuring input <i>M1-7VR4B.0002...</i> <i>Shunt</i>	Span	-5...80 mV	/ -10...180 mV
		Measuring range	0...60 mV	/ 0...150 mV
Input resistance		Ri at ~12 kΩ	/ Ri at ~30 Ω	
Measuring fault		0.1% of measuring range, ± 1 Digit / 0.1% of measuring range, ± 1 Digit		
Temperature drift		100 ppm/K		
Measuring time		0.1 ... 10.0 seconds		
Measuring principle		U/F-conversion		
Resolution		approx. 18 Bit at 1s measuring time		
Measuring input <i>M1-7VR4B.0005...</i> <i>Potentiometer</i>		Span	>1 kΩ ... 1000 kΩ	
		Measuring range	0...100 %	
	Measuring fault	0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
Resolution	approx. 18 Bit at 1s measuring time			
Measuring input <i>M1-7VR4B.0x06...</i> <i>Resistance</i>	Span	0...1,1 kΩ, 0...11 kΩ, 0...110 kΩ, 0...1100 kΩ		
	Measuring range	0...1 kΩ, 0...10 kΩ, 0...100 kΩ, 0...1000 kΩ		
	Measuring fault	0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
Resolution	approx. 18 Bit at 1s measuring time			
Measuring input <i>M1-7TR4B.030C...</i> <i>PT100</i>	Span	-200...850°C / -328...1562°F		
	Measuring fault	0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
	Resolution	approx. 0.1°C or 0.1°F		

Measuring input

M1-7TR4B.040C...
Thermocouple

Measuring range	Type L -200...900°C Type J -210...1200°C Type K -270...1372°C Type B 80...1820°C Type S -50...1768°C Type N -270...1300°C Type E -270...1000°C Type T -270...400°C Type R -50...1768°C
Measuring fault	2 K, ± 1 Digit
Temperature drift	100 ppm/K
Measuring time	0.1 ... 10.0 seconds
Measuring principle	U/F-conversion
Resolution	0.1°C
Characteristic curve fault	<± 1 kΩ
Reference junction	Semiconductor sensor

Measuring input

M1-7FR4B.0007...
Frequency

in preparation

Power pack

Supply 24 VDC +/- 10 % (max. 1 VA)

Memory

EEPROM
Data life > 100 years

Ambient conditions

Working temperature 0 to + 60 °C
Storing temperature -20 to + 80°C
Climatic density relative humidity 0-85% on years average without dew

EMV

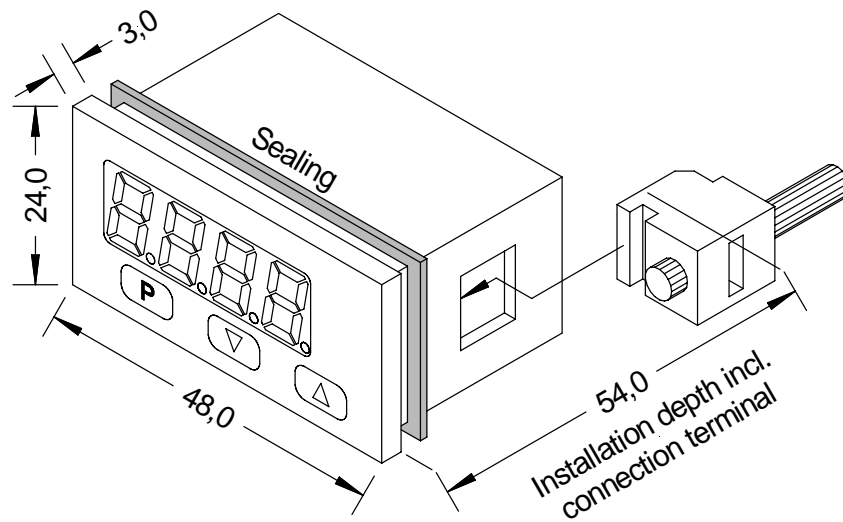
DIN 61010

CE-sign

Conformity to 89/336/EWG

Safety standard

DIN 61326

Housing:

Ordering code M1

Digital display standard

	M	1-	7	V	R	4	A.	0	0	0	1.	7	7	0	A	O	
Basic type M-Line																	
Installation depth Short (54 mm)																	Dimension O without physical unit
Housing size 48 x 24 x 27 mm (BxHxD)																	Version A A
Display type Frequency Temperature Analog																	Setpoints 0 No setpoints
Display colours Blue Green Red Orange																	Protection class 7 IP65 / plug terminal
Number of digits 4-digit																	Supply voltage 7 24 VDC galv. insulated
Digit height 10 mm																	Measuring input 1 Direct curren, direct voltage 2 Shunt 5 Potentiometer 6 Resistance 7 Frequency (without sensor supply) C PT100/2-3-wire X Thermocouple type B, E, J, K, L, N, R, S,T
Interface without																	Analog output 0 without
																	Sensor supply 0 without
																	Temperature devices 3 PT100/2-3-wire 4 Thermocouple
																	Resistance / Potentiometer 8 1 kΩ 5 10 kΩ 6 100 kΩ 7 1 MΩ

OPTIONS

	Additional price
	EUR
Blue LED	38,00
Orange LED	3,00
Green LED	9,50



Digital panel meter 4-digit

M1 current loop

- red display of -1999...9999 digits
- minimal installation depth: 37 mm without plug terminal
- min-/max-value recording
- 10 adjustable setpoints
- display flashing at threshold exceedance / undershooting
- tara- / offset value calibration
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug terminal

Digital panel meter

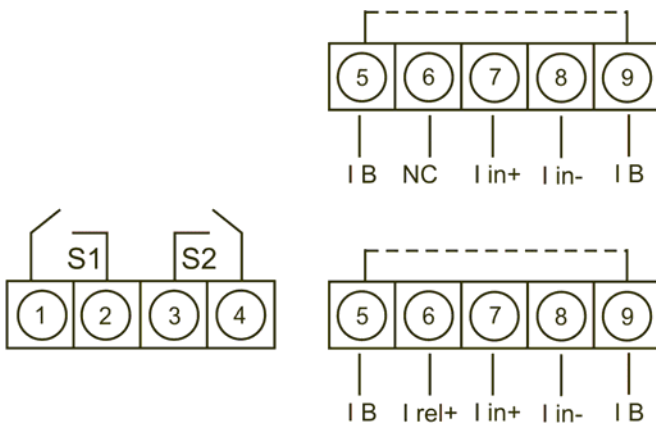
- current loop device, direct current



ORDER NUMBER EUR
(without options)

M1-3SR4B.0001.K70AD 1135,00

M1-3SR4B.0001.K72AD 150,00



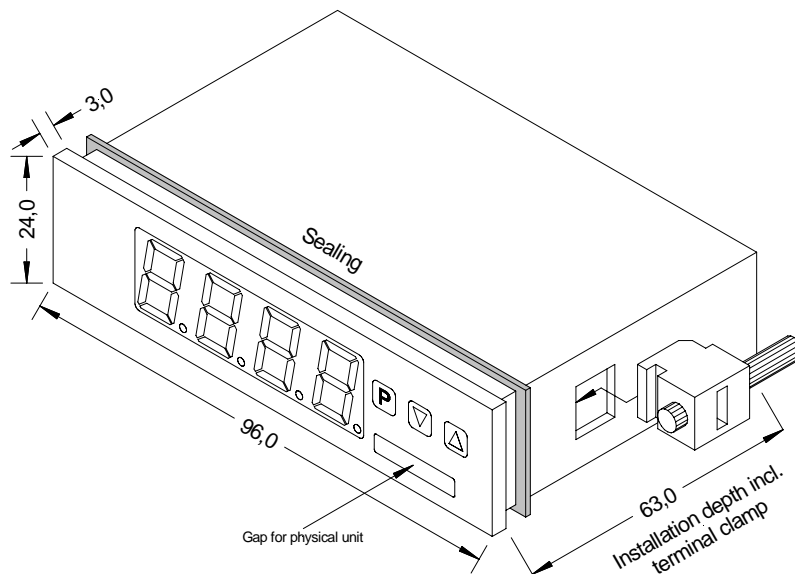
Ordering code

	M	1	3	S	R	4	B	0	0	0	1	K	7	0	A	D			
Basic type M-Line																	Dimension		
Installation depth																	D	physical unit	
short																		Version	
																		A	A
Housing size																		Setpoints	
96 x 24 x 37 mm																		0	without
without plug terminal																		2	PhotoMOS-outputs
Display type																		Protection	
Current loop																		7	IP65/plug terminal
Display colour																		Supply voltage	
Red																		K	via current
Number of digits																		Measuring input	
4-digit																		1	Direct current 4-20 mA
Digit height																		Analog output	
14 mm																		0	without
Interface																		Sensor supply	
without																		0	without

Technical data

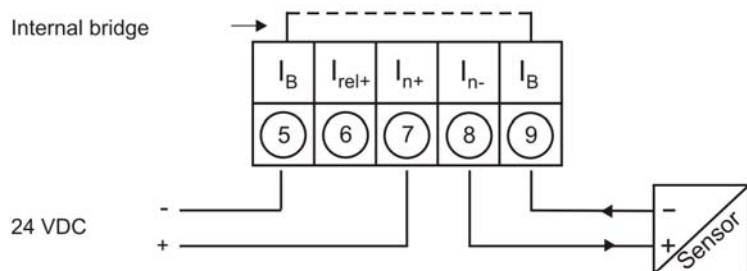
Dimensions	Housing Panel cut-out Fixing Housing material Sealing material Protection class Weight Connection	B96 x H24 x D 37 mm, (incl. Plug terminal D= 63 mm) $92,0^{+0,8} \times 22,2^{+0,3}$ mm screw elements for insulation thickness up to 3 mm PC Polycarbonat, black EPDM, 65 Shore, black front IP65 standard rearside IP00 approx. 50 g plug terminal; line cross section up to 2.5 mm ²
Display	Digit height Segment colour Display range Setpoints Overflow Underflow Display time	14 mm red -1999 to 9999 optical display flashing horizontal bars at the top horizontal bars at the bottom 0.1 to 10.0 seconds
Measuring input	Input Measuring range Measuring fault Fail of voltage Temperature drift Measuring time Measuring principle Resolution	min. 3.5...max. 21 mA 4-20 mA 0.3% of measuring range, ± 1 digit approx. 5.1 V without switching outputs approx. 8.0 V with switching outputs Measuring range / measuring fault at measuring time = 1 second 100 ppm/K 0.1...10.0 seconds successive approximation 12 Bit-converter 14 Bit (noiseless by oversampling at 1 s measuring time)
Output	Setpoints	potentialfree PhotoMOS-outputs max. switching voltage 30 VDC/AC max. steady current 0,4 A Electric strength AC: 400 V permanent, 1800 V for 1 minute
Memory	Data life	Flash-memory (independent of supply) > 100 years
Ambient conditions	Working temperature Storing temperature Climatic density	0 to + 60 °C -20 to + 80 °C relative humidity 0-80% on years average without dew
EMV	DIN 61326	
CE-sign	Conformity to 89/336/EWG	
Safety standard	DIN 61010	

Housing:

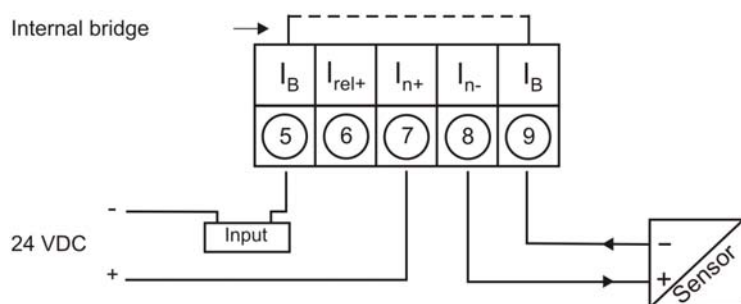


Connection pictures

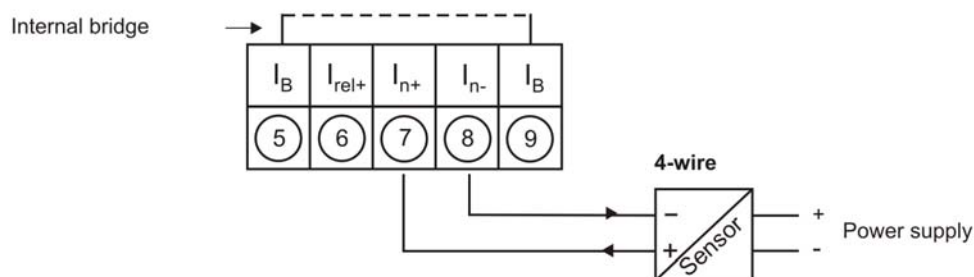
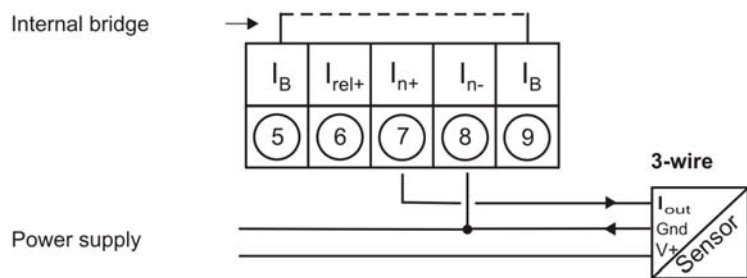
Current loop device in combination with a transmitter in current loop technique:



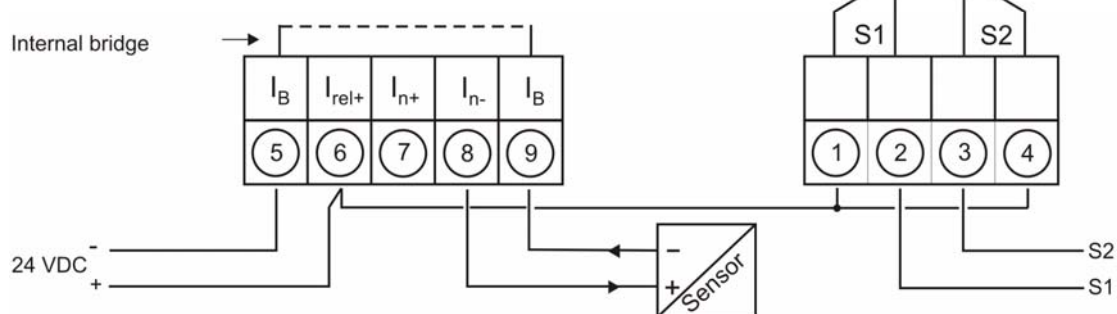
Current loop device in combination with another measuring input with low burden:



Current loop device in combination with a 3-/4-wire sensor:



Current loop device with activated outputs 24 VDC (upto 0.4 A):





Digital panel meter 4-digit

M1

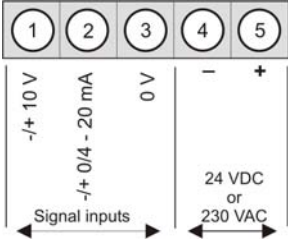
- red display of -1999...9999 digits (optional green, orange or blue display)
- minimal installation depth: 57 mm without terminal plug
- min-/max-value recording
- 10 adjustable setpoints
- display flashing at threshold exceedance / undershooting
- tara-function
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug-in terminal

Digital panel meter

- Direct current
- Potentiometer
- Thermocouple
- Direct voltage
- Resistance
- Frequency
- Shunt
- PT100



• Direct current, direct voltage



Supply 230 VAC

Supply 24 VDC

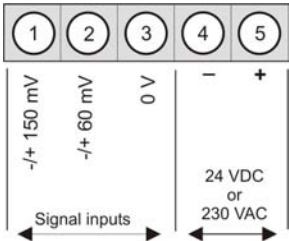
**ORDER NUMBER
(without options)**

EUR

M1-3VR4B.0001.570AD 143,00

M1-3VR4B.0001.770AD 151,00

• Direct voltage (Shunt)



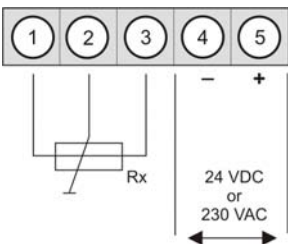
Supply 230 VAC

Supply 24 VDC

M1-3VR4B.0002.570AD 163,00

M1-3VR4B.0002.770AD 171,00

• Potentiometer (1 kΩ ... 100 kΩ)



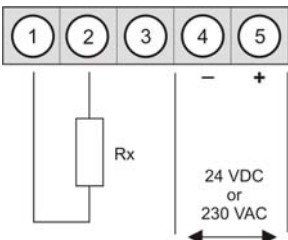
Supply 230 VAC

Supply 24 VDC

M1-3VR4B.0005.570AD 163,00

M1-3VR4B.0005.770AD 171,00

• Resistance (1 kΩ, 10 kΩ, 100 kΩ or 1000 kΩ)



Supply 230 VAC

Supply 24 VDC

Supply 230 VAC

Supply 24 VDC

Supply 230 VAC

Supply 24 VDC

Supply 230 VAC

Supply 24 VDC

1 kΩ

1 kΩ

10 kΩ

10 kΩ

100 kΩ

100 kΩ

1000 kΩ

1000 kΩ

M1-3VR4B.0806.570AD 163,00

M1-3VR4B.0806.770AD 171,00

M1-3VR4B.0506.570AD 163,00

M1-3VR4B.0506.770AD 171,00

M1-3VR4B.0606.570AD 163,00

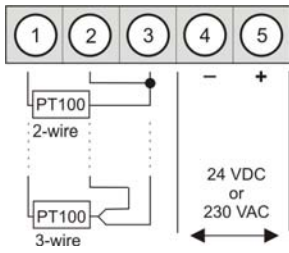
M1-3VR4B.0606.770AD 171,00

M1-3VR4B.0706.570AD 163,00

M1-3VR4B.0706.770AD 171,00

ORDER NUMBER **EUR**
 (without options)

• **PT100 (2-/3- wire) -200°C...850°C**



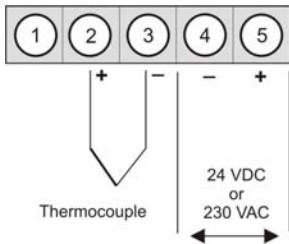
Supply 230 VAC

Supply 24 VDC

M1-3TR4B.030C.570AD 168,00

M1-3TR4B.030C.770AD 176,00

• **Thermocouple Type B, E, J, K, L, N, R, S, T**



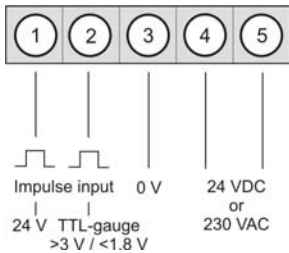
Supply 230 VDC

Supply 24 VDC

M1-3TR4B.040X.570AD 171,00

M1-3TR4B.040X.770AD 179,00

• **Frequency**



In preparation

<h1>OPTIONS</h1>	Additional price
	EUR
Blue LED	38,00
Orange LED	3,00
Green LED	9,50

Technical data

Dimension	Housing	B96 x H24 x D57 mm (including plug-in terminal D= 74 mm)		
	Panel cut-out	92.0^{+0.8} x 22.2^{+0.3} mm		
	Fixing	screw elements for insulation thickness up to 3 mm		
	Housing material	PC Polycarbonat, black		
	Sealing material	EPDM, 65 Shore, black		
	Protection class	at the front IP65 standard, backside IP00		
	Weight	approx. 50 g		
	Connection	Plug terminal; line cross-section up to 2.5 mm ²		
Display	Display	4-digit		
	Digit height	14 mm		
	Segment colour	Red (standard), optional available in green, blue and orange		
	Display range	-1999 to 9999		
	Setpoints	optical display flashing		
	Overflow	horizontal bars at the top		
	Underflow	horizontal bars at the bottom		
	Display time/ Measuring time	0.1 to 10.0 seconds		
Measuring input <i>M1-1VR4B.0001...</i> <i>Direct current /</i> <i>Direct voltage</i>	Span	-12...12 V	/ -22...24 mA	
	Measuring range	0-10 V	/ 0/4-20 mA	
	Input resistance	Ri at ~100 kΩ	/ Ri at ~100 Ω	
	Measuring fault	0.1% of measuring range, ± 1 Digit / 0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
	Resolution	approx. 18 Bit at 1s measuring time		
	Measuring input <i>M1-1VR4B.0002...</i> <i>Shunt</i>	Span	-5...80 mV	/ -10...180 mV
		Measuring range	0...60 mV	/ 0...150 mV
Input resistance		Ri at ~12 kΩ	/ Ri at ~30 Ω	
Measuring fault		0.1% of measuring range, ± 1 Digit / 0.1% of measuring range, ± 1 Digit		
Temperature drift		100 ppm/K		
Measuring time		0.1 ... 10.0 seconds		
Measuring principle		U/F-conversion		
Resolution		approx. 18 Bit at 1s measuring time		
Measuring input <i>M1-1VR4B.0005...</i> <i>Potentiometer</i>		Span	>1 kΩ ... 1000 kΩ	
		Measuring range	0...100 %	
	Measuring fault	0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
Resolution	approx. 18 Bit at 1s measuring time			
Measuring input <i>M1-1VR4B.0x06...</i> <i>Resistance</i>	Span	0...1,1 kΩ, 0...11 kΩ, 0...110 kΩ, 0...1100 kΩ		
	Measuring range	0...1 kΩ, 0...10 kΩ, 0...100 kΩ, 0...1000 kΩ		
	Measuring fault	0.1% of measuring range, ± 1 Digit		
	Temperature drift	100 ppm/K		
	Measuring time	0.1 ... 10.0 seconds		
	Measuring principle	U/F-conversion		
	Resolution	approx. 18 Bit at 1s measuring time		
	Measuring input <i>M1-1TR4B.030C...</i> <i>PT100</i>	Span	-200...850°C / -328...1562°F	
Measuring fault		0.1% of measuring range, ± 1 Digit		
Temperature drift		100 ppm/K		
Measuring time		0.1 ... 10.0 seconds		
Measuring principle		U/F-conversion		
Resolution		approx. 0.1°C or 0.1°F		

Measuring input

M1-1TR4B.040C...
Thermocouple

Measuring range	Type L -200...900°C Type J -210...1200°C Type K -270...1372°C Type B 80...1820°C Type S -50...1768°C Type N -270...1300°C Type E -270...1000°C Type T -270...400°C Type R -50...1768°C
Measuring fault	2 K, ± 1 Digit
Temperature drift	100 ppm/K
Measuring time	0.1 ... 10.0 seconds
Measuring principle	U/F-conversion
Resolution	0.1°C
Characteristic curve fault	<± 1 kΩ
Reference junction	Semiconductor sensor

Measuring input

M1-1FR4B.0007...
Frequency

in preparation**Power pack**

Supply	230 VAC +/- 10 % (typ.3.7 VA; max. 9 VA) 24 VDC +/- 10 % (typ. 0.5 VA; max. 1 VA)
--------	--

Memory

EEPROM	
Data life	> 100 years

Ambient conditions

Working temperature	0 to + 60 °C
Storing temperature	-20 to + 80°C
Climatic density	relative humidity 0-85% on years average without dew

EMV

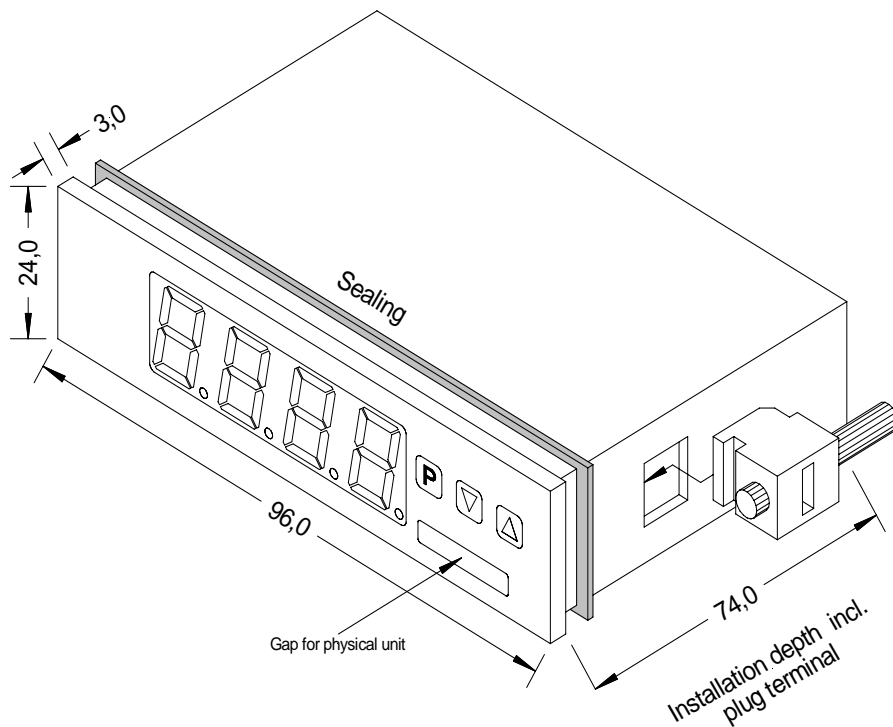
DIN 61010

CE-sign

Conformity to 89/336/EWG

Safety standard

DIN 61326

Housing:

Ordering code M1

Digital display standard

	M	1-	3	V	R	4	B.	0	0	0	1.	7	7	0	A	D	
Basic type M-Line																	Dimension
																	<input type="checkbox"/> D Physical unit
Installation depth																	Version
short			<input type="checkbox"/> 1														<input type="checkbox"/> A A
Housing size																	Setpoints
96 x 24 x 57 mm (BxHxD)			<input type="checkbox"/> 3														<input type="checkbox"/> 0 No setpoints
Display type																	Protection class
Frequency				<input type="checkbox"/> F													<input type="checkbox"/> 7 IP65 / plug terminal
Temperature				<input type="checkbox"/> T													Supply voltage
Analog				<input type="checkbox"/> V													<input type="checkbox"/> 5 230 VAC
Display colours																	<input type="checkbox"/> 7 24 VDC galv. insulated
Blue				<input type="checkbox"/> B													Measuring input
Green				<input type="checkbox"/> G													<input type="checkbox"/> 1 Direct current, direct voltage
Red				<input type="checkbox"/> R													<input type="checkbox"/> 2 Shunt
Orange				<input type="checkbox"/> Y													<input type="checkbox"/> 5 Potentiometer
Number of digits																	<input type="checkbox"/> 6 Resistance
4-digit																	<input type="checkbox"/> 7 Frequency (without sensor supply)
Digit height																	<input type="checkbox"/> C PT100 -200...850°C
14 mm																	<input type="checkbox"/> X Thermocouple type B, E, J, K, L, N, R, S,T
Interface																	Analog output
without																	<input type="checkbox"/> 0 without
																	Temperature devices
																	<input type="checkbox"/> 3 PT100-/2- 3-wire
																	<input type="checkbox"/> 4 Thermocouple
																	Resistance
																	<input type="checkbox"/> 8 1 kΩ
																	<input type="checkbox"/> 5 10 kΩ
																	<input type="checkbox"/> 6 100 kΩ
																	<input type="checkbox"/> 7 1000 kΩ
																	Sensor supply
																	<input type="checkbox"/> 0 without



Digital panel meter 4-digit

M1 current loop

- red display of -1999...9999 digits
- minimal installation depth: 25 mm without plug terminal
- min-/max-value recording
- 10 adjustable setpoints
- display flashing at threshold exceedance / undershooting
- tara- / offset value calibration
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug terminal

Digital panel meter

- current loop device, direct current

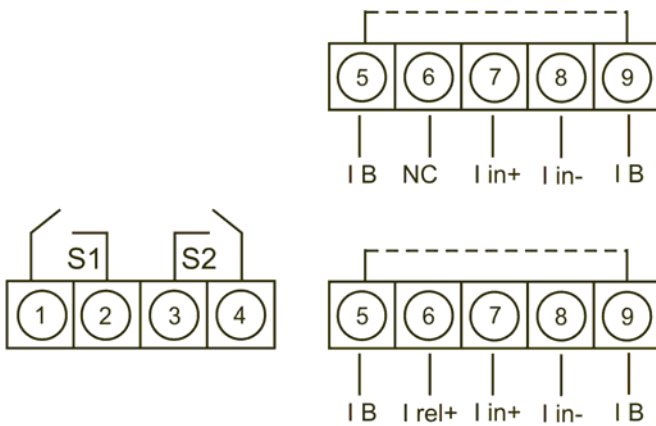


ORDER NUMBER
(without options)

EUR

M1-1SR4B.0001.K70AD 120,00

M1-1SR4B.0001.K72AD 135,00



Ordering code

	M	1	1	S	R	4	B.	0	0	0	1.	K	7	0	A	D									
Basic type M-Line																	Dimension								
Installation depth																	D	physical unit							
short																		Version							
																		A	A						
Housing size																			Setpoints						
96 x 48 x 25 mm																			0	without					
without plug terminal																			2	PhotoMOS-outputs					
Display type																				Protection					
Current loop																				7	IP65/plug terminal				
Display colour																					Supply voltage				
Red																					K	via current			
Number of digits																						Measuring input			
4-digit																						1	Direct current 4-20 mA		
Digit height																							Analog output		
14 mm																							0	without	
Interface																								Sensor supply	
without																								0	without

Technical data

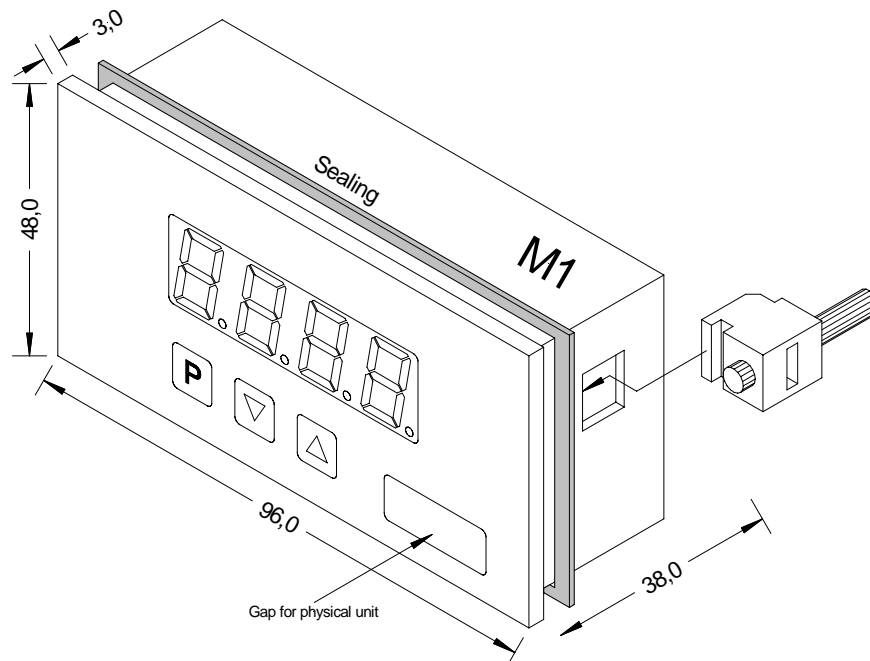
Dimensions	Housing Panel cut-out Fixing Housing material Sealing material Protection class Weight Connection	B96 x H48 x D25 mm, (incl. Plug terminal D= 38 mm) 92.0 ^{+0.8} x 45.0 ^{+0.6} mm screw elements for insulation thickness up to 3 mm PC Polycarbonat, schwarz EPDM, 65 Shore, schwarz front IP65 standard rearside IP00 approx. 50 g plug terminal; line cross section up to 2.5 mm ²
Display	Digit height Segment colour Display range Setpoints Overflow Underflow Display time	14 mm red -1999 to 9999 optical display flashing horizontal bars at the top horizontal bars at the bottom 0.1 to 10.0 seconds
Measuring input	Input Measuring range Measuring fault Fail of voltage Temperature drift Measuring time Measuring principle Resolution	min. 3.5...max. 21 mA 4-20 mA 0.3% of measuring range, ± 1 digit approx. 5.1 V without switching outputs approx. 8.0 V with switching outputs Measuring range / measuring fault at measuring time = 1 second 100 ppm/K 0.1 ... 10.0 seconds successive approximation 12 Bit-converter 14 Bit (noiseless by oversampling at 1 s measuring time)
Output	Setpoints	potentialfree PhotoMOS-outputs max. switching voltage 30 VDC/AC max. steady current 0,4 A Electric strength AC: 400 V permanent, 1800 V for 1 minute
Memory	Data life	Flash-memory (independent of supply) > 100 years
Ambient conditions	Working temperature Storing temperature Climatic density	0 to + 60 °C -20 to + 80 °C relative humidity 0-80% on years average without dew

EMV DIN 61326

CE-sign Conformity to 89/336/EWG

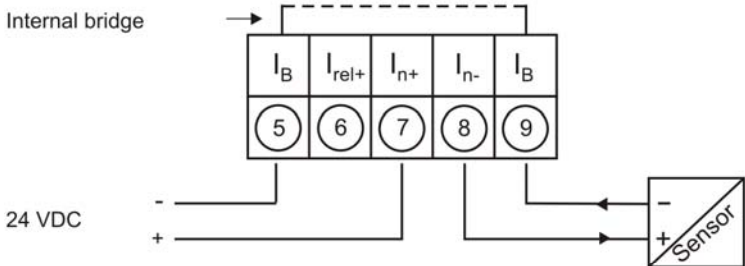
Safety standard DIN 61010

Housing:

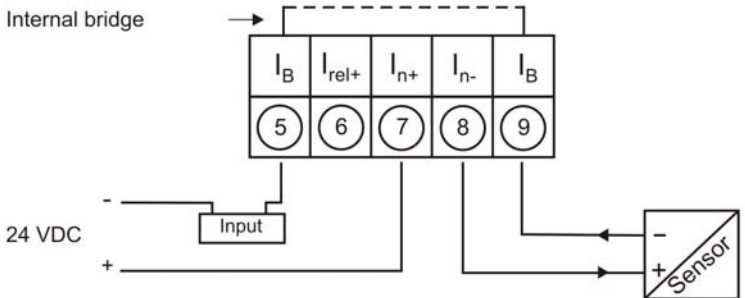


Connection pictures

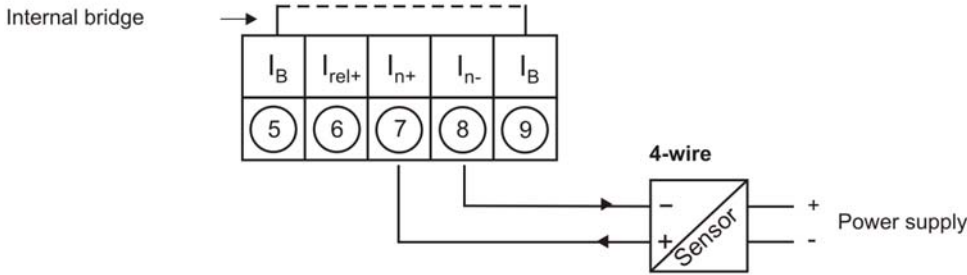
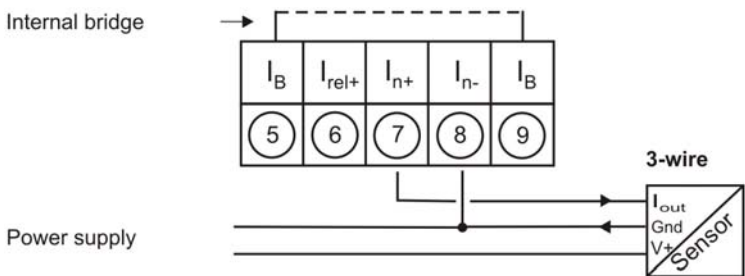
Current loop device in combination with a transmitter in current loop technique:



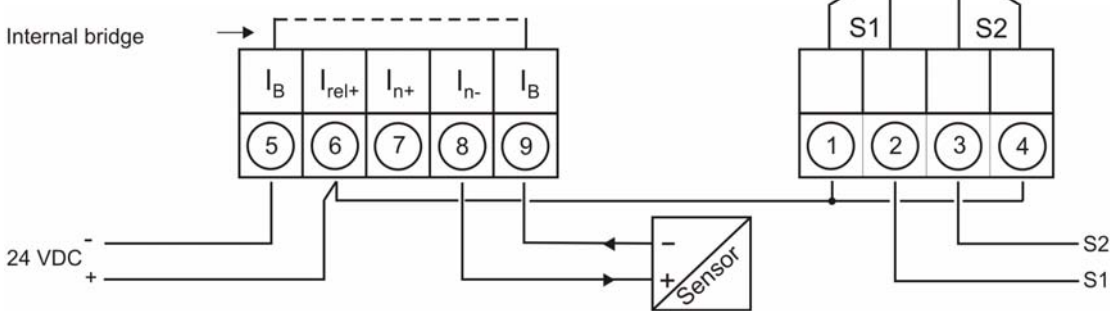
Current loop device in combination with another measuring input with low burden:



Current loop device in combination with a 3-/4-wire sensor:



Current loop device with activated outputs 24 VDC (upto 0.4 A):





Digital panel meter 4-digit

M1

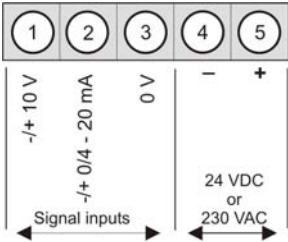
- red display of -1999...9999 digits (optional green, orange or blue display)
- minimal installation depth: 25 mm without terminal plug
- min-/max-value recording
- 10 adjustable setpoints
- display flashing at threshold exceedance / undershooting
- tara-function
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug term

Digital panel meter

- Direct current
- Potentiometer
- Thermocouple
- Direct voltage
- Resistance
- Frequency
- Shunt
- PT100



• Direct current, direct voltage



Supply 230 VAC

Supply 24 VDC

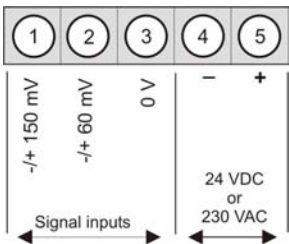
**ORDER NUMBER
(without options)**

EUR

M1-1VR4B.0001.570BD 128,00

M1-1VR4B.0001.770BD 140,00

• Direct voltage (Shunt)



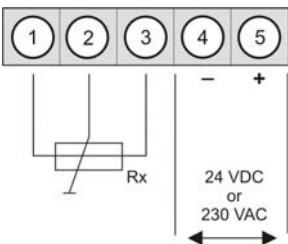
Supply 230 VAC

Supply 24 VDC

M1-1VR4B.0002.570BD 148,00

M1-1VR4B.0002.770BD 160,00

• Potentiometer (1 kΩ ... 100 kΩ)



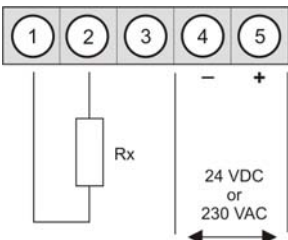
Supply 230 VAC

Supply 24 VDC

M1-1VR4B.0005.570BD 148,00

M1-1VR4B.0005.770BD 160,00

• Resistance (1 kΩ, 10 kΩ, 100 kΩ or 1000 kΩ)



Supply 230 VAC

Supply 24 VDC

Supply 230 VAC

Supply 24 VDC

Supply 230 VAC

Supply 24 VDC

Supply 230 VAC

Supply 24 VDC

1 kΩ

1 kΩ

10 kΩ

10 kΩ

100 kΩ

100 kΩ

1000 kΩ

1000 kΩ

M1-1VR4B.0806.570BD 148,00

M1-1VR4B.0806.770BD 160,00

M1-1VR4B.0506.570BD 148,00

M1-1VR4B.0506.770BD 160,00

M1-1VR4B.0606.570BD 148,00

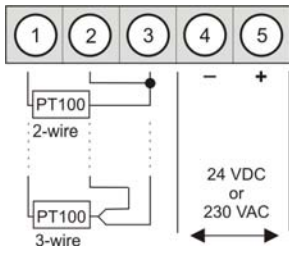
M1-1VR4B.0606.770BD 160,00

M1-1VR4B.0706.570BD 148,00

M1-1VR4B.0706.770BD 160,00

ORDER NUMBER **EUR**
 (without options)

• **PT100 (2-/3- wire) -200°C...850°C**



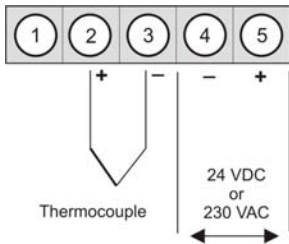
Supply 230 VAC

Supply 24 VDC

M1-1TR4B.030C.570BD 153,00

M1-1TR4B.030C.770BD 165,00

• **Thermocouple Type B, E, J, K, L, N, R, S, T**



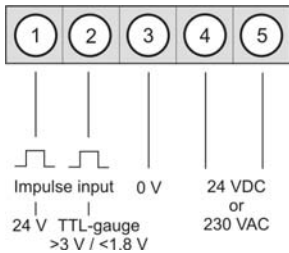
Supply 230 VDC

Supply 24 VDC

M1-1TR4B.040X.570BD 156,00

M1-1TR4B.040X.770BD 168,00

• **Frequency**



In preparation

<h1>OPTIONS</h1>	Additional price
	EUR
Blue LED	38,00
Orange LED	3,00
Green LED	9,50

Technical data

Dimension	Housing	B96xH48xD25 mm (including plug-in terminal D= 38 mm)	
	Panel cut-out	92.0 ^{+0.8} x 45.0 ^{+0.6} mm	
	Fixing	screw elements for insulation thickness up to 3 mm	
	Housing material	PC Polycarbonat, black	
	Sealing material	EPDM, 65 Shore, black	
	Protection class	at the front IP65 standard, backside IP00	
	Weight	approx. 50 g	
	Connection	Plug terminal; line cross-section up to 2.5 mm ²	
Display	Display	4-digit	
	Digit height	14 mm	
	Segment colour	Red (standard), optional available in green, blue and orange	
	Display range	-1999 to 9999	
	Setpoints	optical display flashing	
	Overflow	horizontal bars at the top	
	Underflow	horizontal bars at the bottom	
	Display time/ Measuring time	0.1 to 10.0 seconds	
Measuring input			
<i>M1-1VR4B.0001...</i>	Span	-12...12 V	/ -22...24 mA
<i>Direct current /</i>	Measuring range	0-10 V	/ 0/4-20 mA
<i>Direct voltage</i>	Input resistance	Ri at ~100 kΩ	/ Ri at ~100 Ω
	Measuring fault	0.1% of measuring range, ± 1 Digit	/ 0.1% of measuring range, ± 1 Digit
	Temperature drift	100 ppm/K	
	Measuring time	0.1 ... 10.0 seconds	
	Measuring principle	U/F-conversion	
	Resolution	approx. 18 Bit at 1s measuring time	
Measuring input			
<i>M1-1VR4B.0002...</i>	Span	-5...80 mV	/ -10...180 mV
<i>Shunt</i>	Measuring range	0...60 mV	/ 0...150 mV
	Input resistance	Ri at ~12 kΩ	/ Ri at ~30 Ω
	Measuring fault	0.1% of measuring range, ± 1 Digit	/ 0.1% of measuring range, ± 1 Digit
	Temperature drift	100 ppm/K	
	Measuring time	0.1 ... 10.0 seconds	
	Measuring principle	U/F-conversion	
	Resolution	approx. 18 Bit at 1s measuring time	
Measuring input			
<i>M1-1VR4B.0005...</i>	Span	>1 kΩ ... <1000 kΩ	
<i>Potentiometer</i>	Measuring range	0...100 %	
	Measuring fault	0.1% of measuring range, ± 1 Digit	
	Temperature drift	100 ppm/K	
	Measuring time	0.1 ... 10.0 seconds	
	Measuring principle	U/F-conversion	
	Resolution	approx. 18 Bit at 1s measuring time	
Measuring input			
<i>M1-1VR4B.0x06...</i>	Span	0...1,1 kΩ, 0...11 kΩ, 0...110 kΩ, 0...1100 kΩ	
<i>Resistance</i>	Measuring range	0...1 kΩ, 0...10 kΩ, 0...100 kΩ, 0...1000 kΩ	
	Measuring fault	0.1% of measuring range, ± 1 Digit	
	Temperature drift	100 ppm/K	
	Measuring time	0.1 ... 10.0 seconds	
	Measuring principle	U/F-conversion	
	Resolution	approx. 18 Bit at 1s measuring time	
Measuring input			
<i>M1-1TR4B.030C...</i>	Span	-200...850°C / -328...1562°F	
<i>PT100</i>	Measuring fault	0.1% of measuring range, ± 1 Digit	
	Temperature drift	100 ppm/K	
	Measuring time	0.1 ... 10.0 seconds	
	Measuring principle	U/F-conversion	
	Resolution	approx. 0.1°C or 0.1°F	

Measuring input

M1-1TR4B.040C...
Thermocouple

Measuring range	Type L -200...900°C Type J -210...1200°C Type K -270...1372°C Type B 80...1820°C Type S -50...1768°C Type N -270...1300°C Type E -270...1000°C Type T -270...400°C Type R -50...1768°C
Measuring fault	2 K, ± 1 Digit
Temperature drift	100 ppm/K
Measuring time	0.1 ... 10.0 seconds
Measuring principle	U/F-conversion
Resolution	0.1°C
Characteristic curve fault	<± 1 kΩ
Reference junction	Semiconductor sensor

Measuring input

M1-1FR4B.0007...
Frequency

in preparation

Power pack

Supply	230 VAC +/- 10 % (typ.3.7 VA; max. 9 VA) 24 VDC +/- 10 % (typ. 0.5 VA; max. 1 VA)
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Memory

EEPROM	
Data life	> 100 years

Ambient conditions

Working temperature	0 to + 60 °C
Storing temperature	-20 to + 80°C
Climatic density	relative humidity 0-85% on years average without dew

EMV

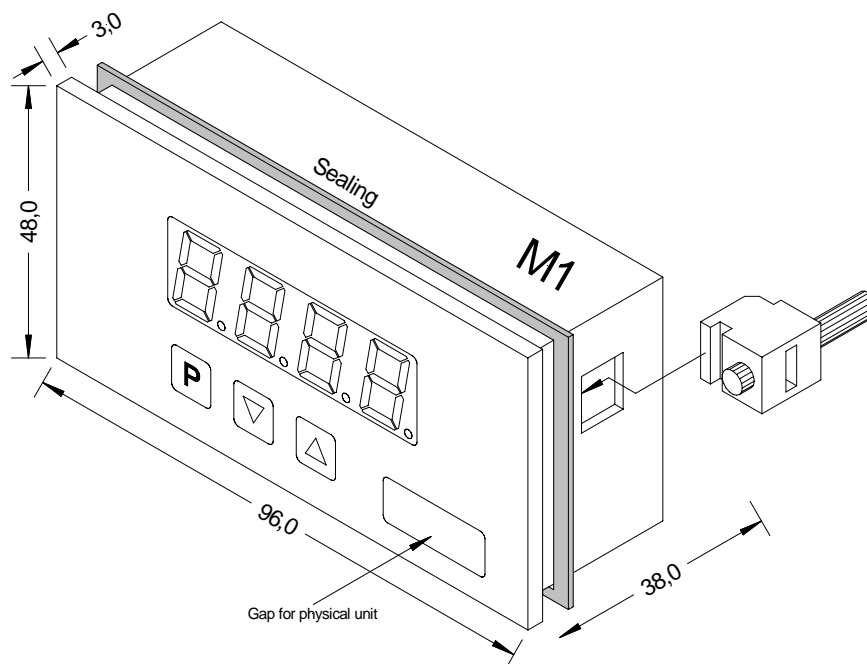
DIN 61010

CE-sign

Conformity to 89/336/EWG

Safety standard

DIN 61326

Housing:

Ordering code M1

Digital display standard

	M	1-	1	V	R	4	B.	0	0	0	1.	7	7	2	B	D	
Basic type M-Line																	Dimension
																	<input type="checkbox"/> D Physical unit
Installation depth																	Version
short			<input type="checkbox"/> 1														<input type="checkbox"/> B B
Housing size																	Setpoints
96 x 48 x 25 mm (BxHxD)			<input type="checkbox"/> 1														<input type="checkbox"/> 0 No setpoints
Display type																	Protection class
Frequency				<input type="checkbox"/> F													<input type="checkbox"/> 7 IP65 / plug terminal
Temperature				<input type="checkbox"/> T													
Analog				<input type="checkbox"/> V													Supply voltage
																	<input type="checkbox"/> 5 230 VAC
																	<input type="checkbox"/> 7 24 VDC galv. insulated
Display colours																	Measuring input
Blue					<input type="checkbox"/> B												<input type="checkbox"/> 1 Direct current, direct voltage
Green					<input type="checkbox"/> G												<input type="checkbox"/> 2 Shunt
Red					<input type="checkbox"/> R												<input type="checkbox"/> 5 Potentiometer
Orange					<input type="checkbox"/> Y												<input type="checkbox"/> 6 Resistance
																	<input type="checkbox"/> 7 Frequency (without sensor supply)
Number of digits																	<input type="checkbox"/> C PT100 -200...850°C
4-digit																	<input type="checkbox"/> X Thermocouple type B, E, J, K, L, N, R, S,T
Digit height																	Analog output
14 mm																	<input type="checkbox"/> 0 without
Interface																	Temperature devices
without																	<input type="checkbox"/> 3 PT100-/2- 3-wire
																	<input type="checkbox"/> 4 Thermocouple
																	Resistance
																	<input type="checkbox"/> 8 1 kΩ
																	<input type="checkbox"/> 5 10 kΩ
																	<input type="checkbox"/> 6 100 kΩ
																	<input type="checkbox"/> 7 1000 kΩ
																	Sensor supply
																	<input type="checkbox"/> 0 without



Digital panel meter 4-digit

M1 – tricolour

- tricolour display of -1999...9999 digits (red, green, orange switchable via limit values)
- minimal installation depth: 25 mm without terminal plug
- min-/max-value recording
- 11 adjustable setpoints
- display flashing at threshold exceedance / undershooting
- tara-function
- zero point tranquilization
- programming interlock via access code
- protection class IP65
- plug term
- 2 relay outputs (change-over-contacts)

Digital panel meter

- Tricolour (red, green, orange switchable)
- Direct current • Direct voltage



ORDER NUMBER

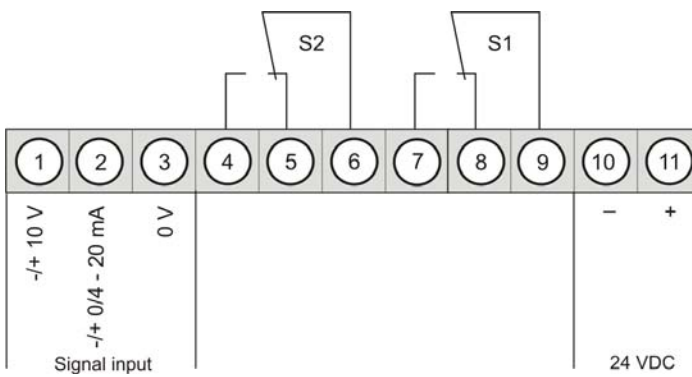
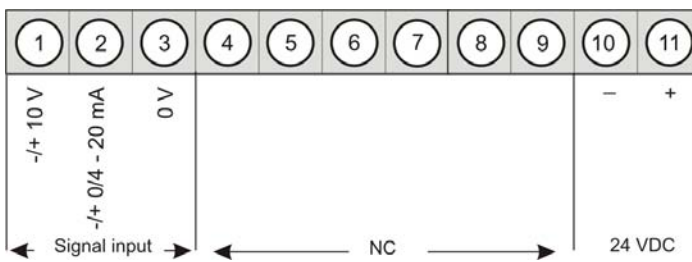
EUR

M1-1VT4B.0001.770AD

185,00

M1-1VT4B.0001.772AD

198,00



Technical data

Dimension	Housing Panel cut-out Fixing Housing material Sealing material Protection class Weight Connection	B96xH48xD25 mm (including plug-in terminal D= 38 mm) 92.0 ^{+0.8} x 45.0 ^{+0.6} mm screw elements for insulation thickness up to 3 mm PC Polycarbonat, black EPDM, 65 Shore, black at the front IP65 standard, backside IP00 approx. 50 g Plug terminal; line cross-section up to 2.5 mm ²	
Display	Display Digit height Segment colour Display range Setpoints Overflow Underflow Display time/ Measuring time	4-digit 14 mm tricolour (red, green, orange) -1999 to 9999 optical display flashing horizontal bars at the top horizontal bars at the bottom 0.1 to 10.0 seconds	
Measuring input	Span Measuring range Input resistance Measuring fault Temperature drift Measuring time Measuring principle Resolution Outputs	-12...12 V 0-10 V Ri at ~100 kΩ 0.1% of measuring range, ± 1 Digit 100 ppm/K 0.1 ... 10.0 seconds U/F-conversion approx. 18 Bit at 1s measuring time 2x relays change-over contacts 250 VAC / 2 A; 30 VDC, 2 A	/ -22...24 mA / 0/4-20 mA / Ri at ~100 Ω / 0.1% of measuring range, ± 1 Digit
Power pack	Supply	24 VDC +/- 10 %, 2 VA	
Memory	EEPROM Data life	> 100 years	
Ambient conditions	Working temperature Storing temperature Climatic density	0 to + 60 °C -20 to + 80 °C relative humidity 0-85% on years average without dew	
EMV	DIN 61010		
CE-sign	Conformity to 89/336/EWG		
Safety standard	DIN 61326		

Housing:

