

Large-size displays single-line

- 4-digit with dimension field
- operation via keys on front side



Different measuring inputs:

- Standard signals 0/4 up to 20 mA, 0/10 V
- PT100, 2-, 3- / 4-wire
- Frequency from 0.01 Hz up to 100 kHz
- Counter; impulse rate up to 10.000 Imp/s max. / timer from 10 ms
- Interface triggering RS232 / RS485
- BCD triggering
- Profibus DP

Large size displays, 4-digit, for indoor use, digit heights 57 mm, 100 mm (200 mm on demand)

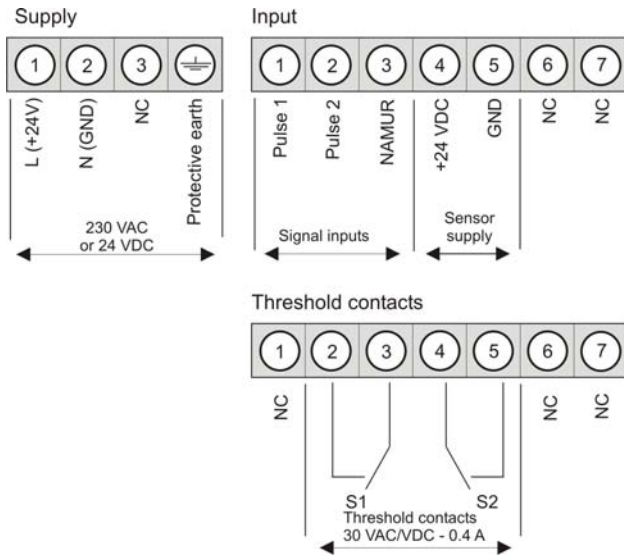
- Input: **Standard signals 0/4 up to 20 mA, 0 up to 10 V**
(Transmitter connection see page 11)

| Supply | Measuring input | Digit height | Supply | Ordering number | EUR |
|-------------------------|-----------------|--------------|------------|-----------------------------|----------|
| Build-up housing | | | | | |
| | | 57 mm | 85-264 VAC | MG-AVR41.0001.S10BD1 | 730,00 |
| | | 57 mm | 18-36 VDC | MG-AVR41.0001.710BD1 | 820,00 |
| | | 100 mm | 85-264 VAC | MG-AVR42.0001.S10BD1 | 990,00 |
| | | 100 mm | 18-36 VDC | MG-AVR42.0001.710BD1 | 1.080,00 |
| Build-in housing | | | | | |
| | | 57 mm | 85-264 VAC | MG-BVR41.0001.S10BD3 | 680,00 |
| | | 57 mm | 18-36 VDC | MG-BVR41.0001.710BD3 | 770,00 |
| | | 100 mm | 85-264 VAC | MG-BVR42.0001.S10BD3 | 940,00 |
| | | 100 mm | 18-36 VDC | MG-BVR42.0001.710BD3 | 1.030,00 |

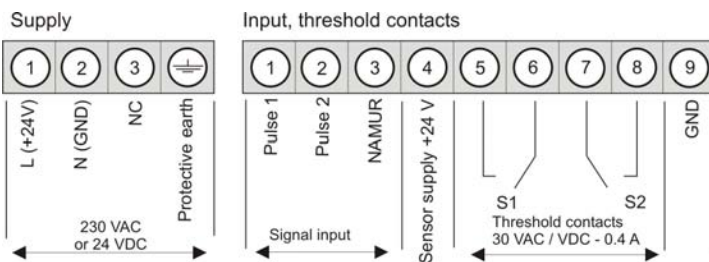
- Input: **PT100, 2-, 3- / 4-wire (-99.9 °C...850.0 °C)**

| Supply | Measuring input 2-wire | Measuring input 3-wire | Measuring input 4-wire | Digit height | Supply | Ordering number | EUR |
|-------------------------|------------------------|------------------------|------------------------|--------------|------------|-----------------------------|----------|
| Build-up housing | | | | | | | |
| | | | | 57 mm | 85-264 VAC | MG-ATR41.000C.S10BD1 | 730,00 |
| | | | | 57 mm | 18-36 VDC | MG-ATR41.000C.710BD1 | 820,00 |
| | | | | 100 mm | 85-264 VAC | MG-ATR42.000C.S10BD1 | 990,00 |
| | | | | 100 mm | 18-36 VDC | MG-ATR42.000C.710BD1 | 1.080,00 |
| Build-in housing | | | | | | | |
| | | | | 57 mm | 85-264 VAC | MG-BTR41.000C.S10BD3 | 680,00 |
| | | | | 57 mm | 18-36 VDC | MG-BTR41.000C.710BD3 | 770,00 |
| | | | | 100 mm | 85-264 VAC | MG-BTR42.000C.S10BD3 | 940,00 |
| | | | | 100 mm | 18-36 VDC | MG-BTR42.000C.710BD3 | 1.030,00 |

- Input: Frequency from 0.01 Hz up to 100 kHz

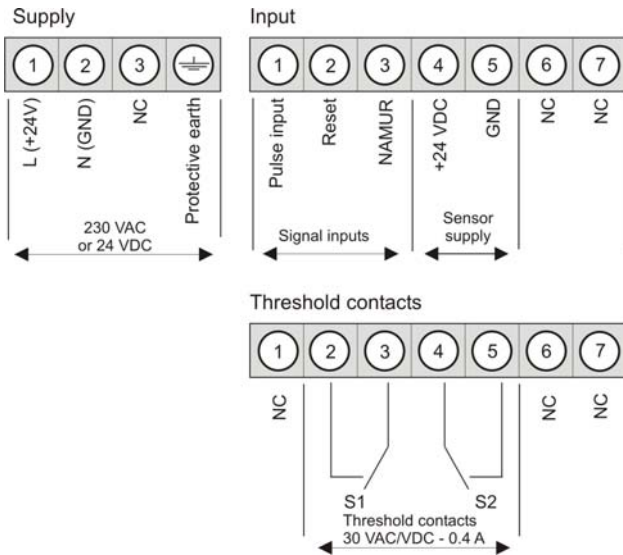


| Digit height | Supply | Ordering number | EUR |
|-------------------------|------------|-----------------------------|----------|
| Build-up housing | | | |
| 57 mm | 85-264 VAC | MG-AFR41.0J07.S10BD1 | 750,00 |
| 57 mm | 18-36 VDC | MG-AFR41.0J07.710BD1 | 840,00 |
| 100 mm | 85-264 VAC | MG-AFR42.0J07.S10BD1 | 1.040,00 |
| 100 mm | 18-36 VDC | MG-AFR42.0J07.710BD1 | 1.130,00 |

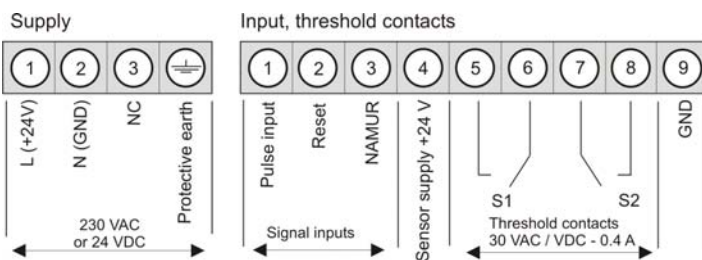


| Build-in housing | | | |
|-------------------------|------------|-----------------------------|----------|
| 57 mm | 85-264 VAC | MG-BFR41.0J07.S10BD3 | 660,00 |
| 57 mm | 18-36 VDC | MG-BFR41.0J07.710BD3 | 750,00 |
| 100 mm | 85-264 VAC | MG-BFR42.0J07.S10BD3 | 960,00 |
| 100 mm | 18-36 VDC | MG-BFR42.0J07.710BD3 | 1.050,00 |

- Counter input; Impulse rate up to 10.000 Impulses/s max. / Timer from 10 ms

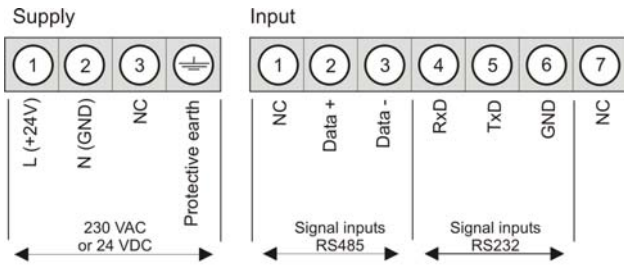


| Build-up housing | | | |
|-------------------------|------------|-----------------------------|----------|
| 57 mm | 85-264 VAC | MG-ACR41.0J03.S10BD1 | 750,00 |
| 57 mm | 18-36 VDC | MG-ACR41.0J03.710BD1 | 840,00 |
| 100 mm | 85-264 VAC | MG-ACR42.0J03.S10BD1 | 1.040,00 |
| 100 mm | 18-36 VDC | MG-ACR42.0J03.710BD1 | 1.130,00 |

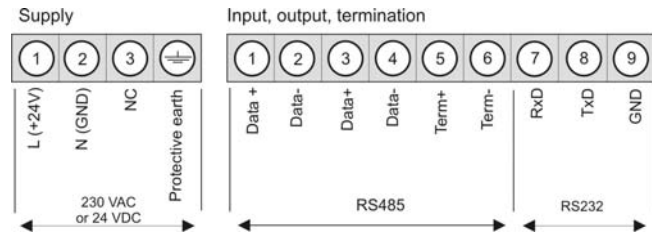
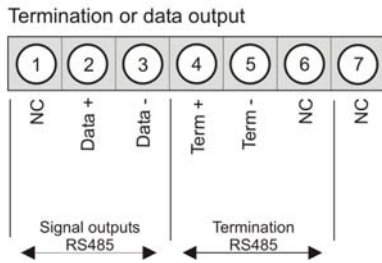


| Build-in housing | | | |
|-------------------------|------------|-----------------------------|----------|
| 57 mm | 85-264 VAC | MG-BCR41.0J03.S10BD3 | 660,00 |
| 57 mm | 18-36 VDC | MG-BCR41.0J03.710BD3 | 750,00 |
| 100 mm | 85-264 VAC | MG-BCR42.0J03.S10BD3 | 960,00 |
| 100 mm | 18-36 VDC | MG-BCR42.0J03.710BD3 | 1.050,00 |

• Input: Interface triggering RS232 / RS485

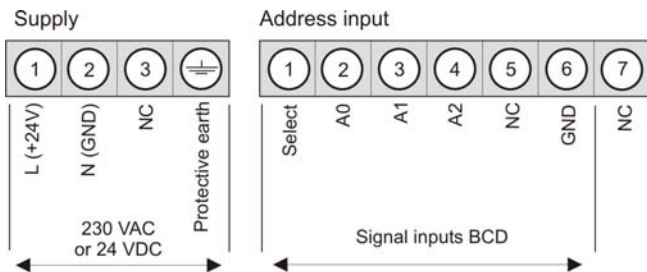


| Digit height | Supply | Ordering number | EUR |
|-------------------------|------------|-----------------------------|-----------------|
| Build-up housing | | | |
| 57 mm | 85-264 VAC | MG-ABR41.A000.S10BD1 | 710,00 |
| 57 mm | 18-36 VDC | MG-ABR41.A000.710BD1 | 800,00 |
| 100 mm | 85-264 VAC | MG-ABR42.A000.S10BD1 | 970,00 |
| 100 mm | 18-36 VDC | MG-ABR42.A000.710BD1 | 1.060,00 |

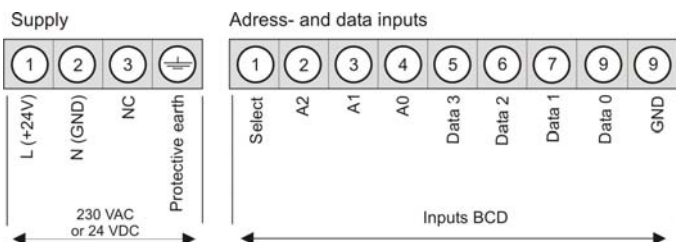
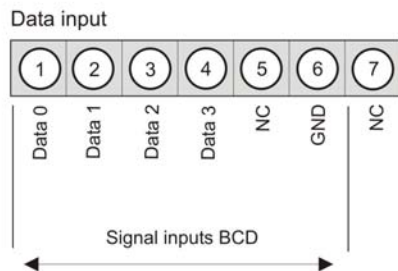


| Digit height | Supply | Ordering number | EUR |
|-------------------------|------------|-----------------------------|-----------------|
| Build-in housing | | | |
| 57 mm | 85-264 VAC | MG-BBR41.A000.S10BD3 | 660,00 |
| 57 mm | 18-36 VDC | MG-BBR41.A000.710BD3 | 750,00 |
| 100 mm | 85-264 VAC | MG-BBR42.A000.S10BD3 | 920,00 |
| 100 mm | 18-36 VDC | MG-BBR42.A000.710BD3 | 1.010,00 |

• Input: BCD triggering

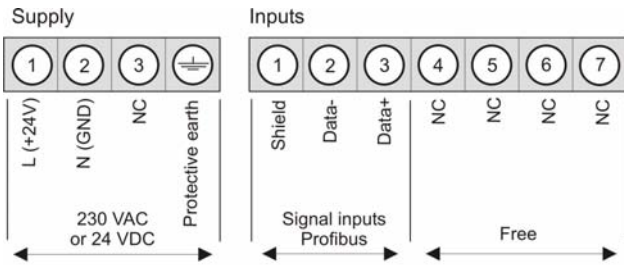


| Digit height | Supply | Ordering number | EUR |
|-------------------------|------------|-----------------------------|-----------------|
| Build-up housing | | | |
| 57 mm | 85-264 VAC | MG-ABR41.B000.S10BD1 | 730,00 |
| 57 mm | 18-36 VDC | MG-ABR41.B000.710BD1 | 820,00 |
| 100 mm | 85-264 VAC | MG-ABR42.B000.S10BD1 | 1.000,00 |
| 100 mm | 18-36 VDC | MG-ABR42.B000.710BD1 | 1.090,00 |

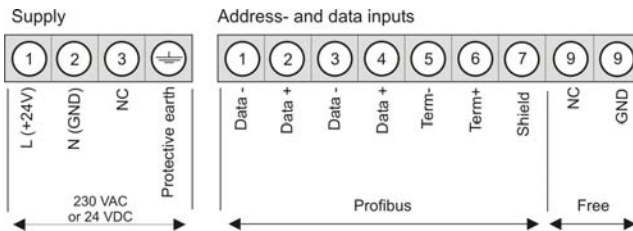
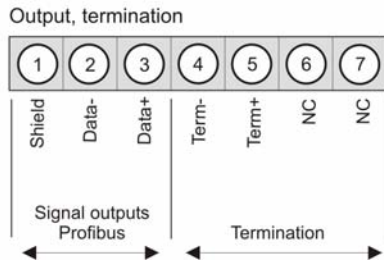


| Digit height | Supply | Ordering number | EUR |
|-------------------------|------------|-----------------------------|-----------------|
| Build-in housing | | | |
| 57 mm | 85-264 VAC | MG-BBR41.B000.S10BD3 | 660,00 |
| 57 mm | 18-36 VDC | MG-BBR41.B000.710BD3 | 750,00 |
| 100 mm | 85-264 VAC | MG-BBR42.B000.S10BD3 | 920,00 |
| 100 mm | 18-36 VDC | MG-BBR42.B000.710BD3 | 1.010,00 |

• Input: **Profibus DP**



| Digit height | Supply | Ordering number | EUR |
|-------------------------|------------|-----------------------------|-----------------|
| Build-up housing | | | |
| 57 mm | 85-264 VAC | MG-ABR41.9000.S10BD1 | 950,00 |
| 57 mm | 18-36 VDC | MG-ABR41.9000.710BD1 | 1.030,00 |
| 100 mm | 85-264 VAC | MG-ABR42.9000.S10BD1 | 1.180,00 |
| 100 mm | 18-36 VDC | MG-ABR42.9000.710BD1 | 1.270,00 |



| Build-in housing | | | |
|-------------------------|------------|-----------------------------|-----------------|
| 57 mm | 85-264 VAC | MG-BBR41.9000.S10BD3 | 900,00 |
| 57 mm | 18-36 VDC | MG-BBR41.9000.710BD3 | 990,00 |
| 100 mm | 85-264 VAC | MG-BBR42.9000.S10BD3 | 1.130,00 |
| 100 mm | 18-36 VDC | MG-BBR42.9000.710BD3 | 1.260,00 |

Options on demand

- **Enlargement over 4 digits**
- **Green display (same price)**
- **Digit height from 200 mm LED**
- **Digit height 60, 100, 150 and 250 mm LCD**
- **2 relay outputs**
- **Outdoor use**

Technical data

Dimensions

| | | |
|------------------|------------------|--|
| Build-up housing | 57 mm display | W 316 mm x H 124 mm x D 82 mm |
| | 100 mm display | W 526 mm x H 176 mm x D 82 mm |
| | Fixing | via fixing flange at the back |
| | Housing material | Aluminium, black |
| | Protection | IP65 |
| | Weight | |
| | 57 mm display | approx. 3.0 kg |
| | 100 mm display | approx. 5.0 kg |
| | Connection | 3-pole multipole connector for voltage supply in execution IP65, for conductor diameter 5.5 – 10 mm |
| | 57 mm display | 6-pole multipole connector for in- and outputs in execution IP65, for conductor diameter 4 – 7.5 mm |
| | 100 mm display | |

Connection

| | | |
|-------------------|--------------------------|--|
| 57/100 mm display | Type of plug | Circular plug-in connector Binder-Series 693 |
| | Cable admission | PG9 (6.0 ... 9.5 mm) |
| | Protection class | IP65 |
| | Mechanic life expectancy | > 500 contact durability |
| | Connection type | Screws |

Connection

| | | |
|-----------------------|---------------------|----------------------------|
| Voltage supply | Number of poles | 3 + PE |
| | Cable cross section | 0.5...2.5 mm (AWG 20...14) |
| | Rating | 400 V |
| | Rating current | 12 A |

Connection

| | | |
|------------|---------------------|-----------------------------|
| In-/output | Number of poles | 7 |
| | Cable cross section | 0.34...1.5 mm (AWG 22...16) |
| | Rating | 250 V |
| | Rating current | 8 A |

| | | |
|---|----------------|---------------------------------------|
| Build-in housing (incl. plug-in terminal) | 57 mm display | W 316 mm x H 124 mm x D 104 mm |
| | 100 mm display | W 526 mm x H 176 mm x D 104 mm |

| | | |
|---------------|----------------|--|
| Panel cut-out | 57 mm display | W 310.0 x H 118.0 ^{+/-0.5} mm |
| | 100 mm display | W 520.0 x H 176.0 ^{+/-0.5} mm |

| | | |
|--------|------------------|-------------------------------------|
| Fixing | Housing material | Aluminium, black, pulverbeschichtet |
| | Protection | Front IP65 |
| | Connection | IP00 |

| | | |
|------------|----------------|--|
| Weight | 57 mm display | approx. 3.0 kg |
| | 100 mm display | approx. 5.0 kg |
| Connection | 57 mm display | 4-pole removable screwclamp for voltage supply for conductor diameter up to 2.5 mm ² |
| | 100 mm display | 9-pole removable screwclamp for in- and outputs for conductor diameter up to 1.5 mm ² |

Input

Standard signals

| | | |
|---------|------------------|---|
| Display | Display | 7-segment LED |
| | Digit height | 57 mm, 100 mm |
| | Segment colour | red |
| | Number of digits | 4 digits |
| | Display range | -999...9999 |
| | Overflow | Indication of transversal bars at the top |
| | Underflow | Indication of transversal at the bottom |
| | Display time | 0.1...10.0 seconds |
| | Field | Indoor |

| Measuring input | Measuring range | R _i , approx. | Measuring error [%] MR | Digit |
|-----------------|-----------------|--------------------------|------------------------|-------|
| | | | | |
| | 0...10 V | 150 kΩ | 0.1 | ± 1 |
| | 0...5 V | 150 kΩ | 0.1 | ± 1 |
| | 0...20 mA | 100 Ω | 0.1 | ± 1 |
| | 4...20 mA | 100 Ω | 0.1 | ± 1 |

| | |
|-------------------------|---------------------------------|
| Temperature drift | all measuring inputs ~ 50 ppm/K |
| Measuring-/display time | 0.01...10.0 seconds |
| Measuring principle | Voltage-/frequency converter |

| | | |
|---|---|---|
| Resolution (at 1 second measuring time) | approx. 20 bit | |
| Memory | Data life | Parameter memory EEPROM > 20 years |
| Output | Sensor supply | 12...24 VDC; 50 mA (galvanic not insulated) |
| Input PT100 | | |
| Display | Display Digit height Segment colour Number of digits Display range Wire break Display time Field | 7-segment LED 57 mm, 100 mm red 4 digits -99.9...850.0 Indication of transversal bars on all display digits 0.1...10.0 seconds Indoor |
| Measuring input | Measuring range Measuring cycle Wire resistance Resolution Measuring fault 850 °C | -99.9...850.0 °C max. 10 measurements per second ≤ 50 Ohm each wire 12 bit +/- 0.1 % of final value; +/- 3 digit |
| Accuracy | Temp. coefficient Measuring principle | ~ 130 ppm/K gradual approximation |
| Memory | Data life | Parameter memory EEPROM > 20 years |
| Input Frequency | | |
| Display | Display Digit height Segment colour Number of digits Display range Overflow Display time Field | 7-segment LED 57 mm, 100 mm red 4 digits -999...9999 Indication of transversal bars on all display digits 0.1...10.0 seconds Indoor |
| Measuring input | Signal Level Input frequency | Impulse input, Namur, 3-wire initiator High/Low level ⇒ 10 V / < 6 V 0.01 Hz...100 kHz |
| Accuracy | Resolution Measuring fault Temp. coefficient | 0...9999 digit +/-0.04 % of input frequency ~ 40 ppm/K |
| Output | Sensor supply | 12...24 VDC; 50 mA (galvanic not insulated) |
| Memory | Data life | Parameter memory EEPROM > 30 years |
| Input Counter | | |
| Display | Display Digit height Segment colours Number of digits Display range Overflow Field | 7-segment LED 57 mm, 100 mm, 200 mm red 4 digits -999...9999 Indication of transversal bars on all display digits Indoor |
| Measuring input | Impulse rate Time basis timer Input resistance Input voltage HIGH- / LOW level | 10,000 impulses/s max. 30 impulses/s with active damping 10 ms / 100 ms / 1 second ca. 10 kOhm +/- 5...24 V ≥ 4.5 V / < 4 V |
| Output | Sensor supply 57/100 mm display 200 mm display NAMUR-supply Setpoints Photo Mos | 12...24 VDC; 50 mA (galvanic not insulated) 24 VDC; 50 mA (galvanic not insulated) approx. 3 mA 30 VAC / 0.4 A – 30 VDC / 0.4 A Input - output voltage / disruptive discharge 100 VAC |
| Memory | Data life | Parameter memory EEPROM > 30 years |

**Input
Interface triggering
RS232/RS485**

| | | |
|-------------------|---|---|
| Display | Display Digit height Segment colour Number of digits Field | 7-segment LED 57 mm, 100 mm red 4 digits Indoor |
| Interface seriell | Protocol Baud rates Interfaces Length/conductor RS232 Length/conductor RS485 Bus participants Termination | parametricable ASCII-report 300, 1200, 2400, 4800, 9600, 19200, 38400, 57600 RS232 / RS485 parametricable max. 3 m max. 1000 m max. 32 to get activated via connection terminal |
| Memory | Data life | Parameter memory EEPROM > 30 years |

**Input
BCD triggering**

| | | |
|---------------|--|---|
| Display | Display Digit heights Segment colours Number of digits Field | 7-segment LED 57 mm, 100 mm red 4 digits Indoor |
| Interface BCD | HIGH / LOW | $\geq 4.5 \text{ V} / \leq 2.4 \text{ V}$ |
| Memory | Data life | Parameter memory EEPROM > 30 years |

**Input
Profibus DP**

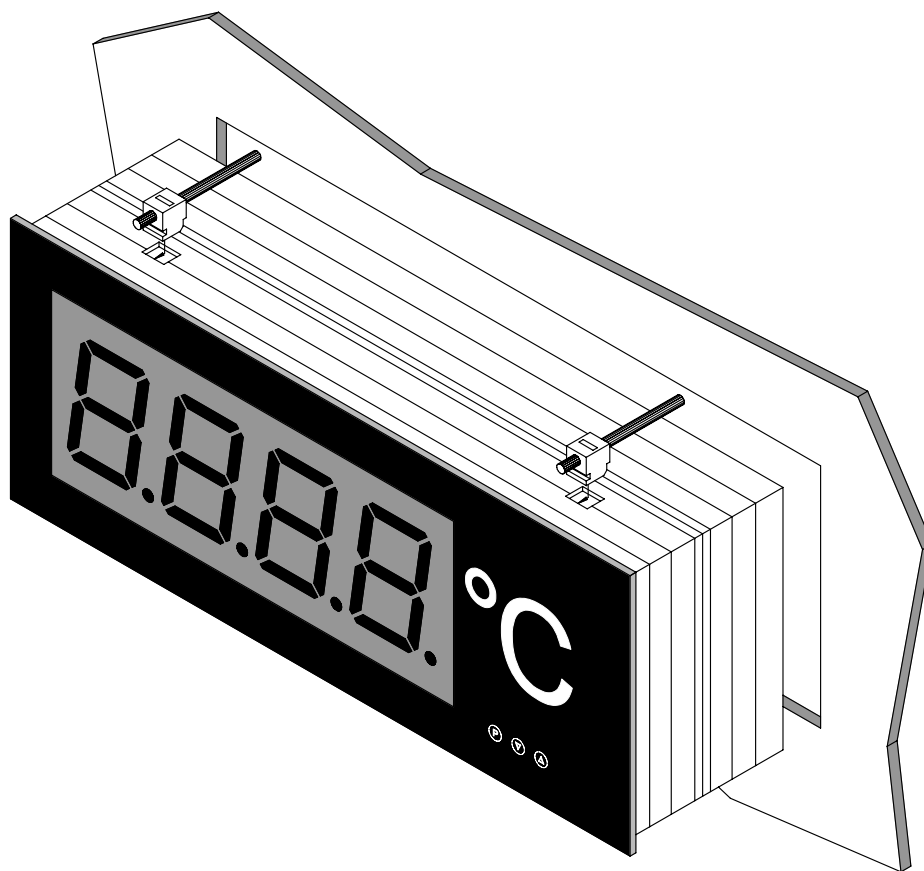
| | | |
|----------|--|---|
| Display | Display Digit heights Segment colour Number of digits Field | 7-segment LED 57 mm, 100 mm red 4 digits Indoor |
| Profibus | Protocol Baud rates Interfaces Length/conductor Bus termination Termination | Profibus DP Auto recognition up to 12 Mbaud RS485 max. 1000 m Pullup/-down to EN50170 to get activated via connection terminal |
| Memory | Data life | Parameter memory EEPROM > 100 years |

Technical data for all types

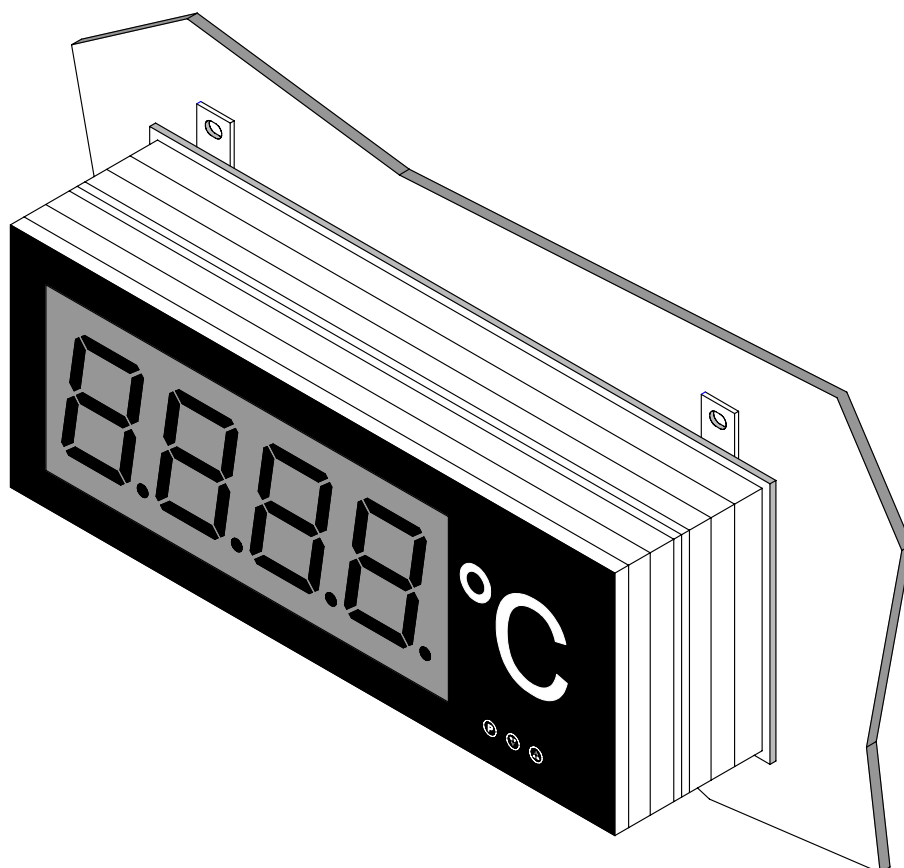
| | | |
|--------------------|---|--|
| Power unit | Power supply Power consumption | 88...264 VAC / 50/60 Hz 18-36 VDC max. 30 VA |
| Ambient conditions | Working temperature Storing temperature Climatic resistance | 0...60 °C -20...80 °C rel. humidity $\leq 75 \%$ on year average without dew |
| EMV CE-sign | | DIN 61326 Conformity to 89/336/EWG |
| Safety standard | | DIN 61010 |

Housing fixing

- Build-in housing with 57 mm and 100 mm digit height
(Screw-/clamp fixing inclusive)



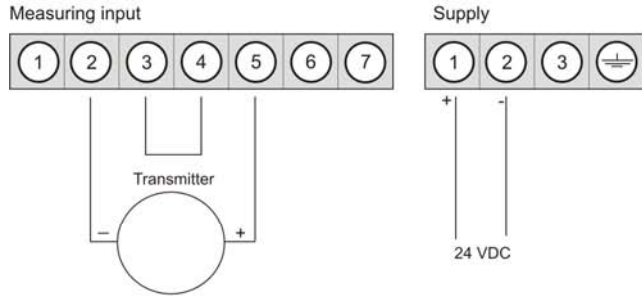
- Build-up housing with 57 mm and 100 mm digit height



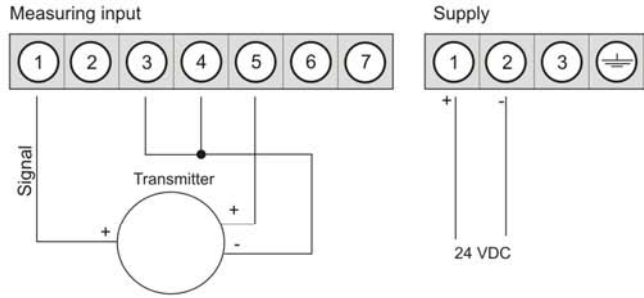
Connection pictures

Terminal connection for transmitter connections with/without sensor supply

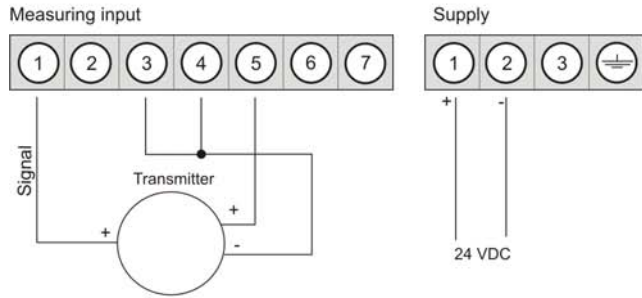
2-wire: 4-20 mA



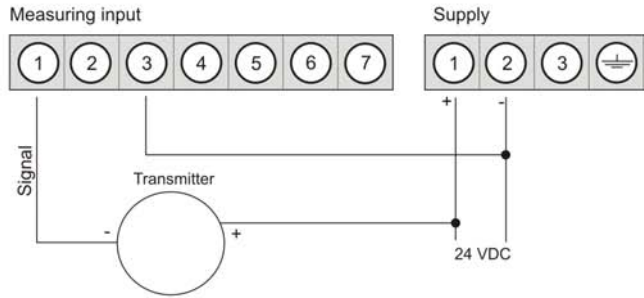
3-wire: 0-20 mA



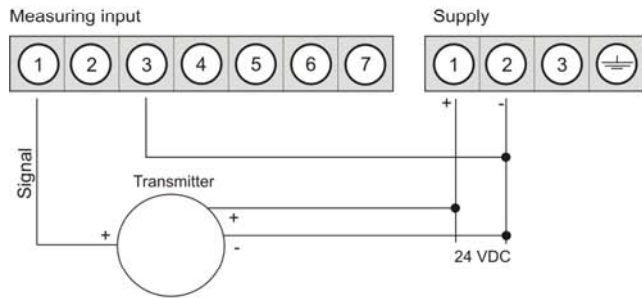
3-wire: 0-10 V / 0-5 V / 0-1 V / 1-6 V



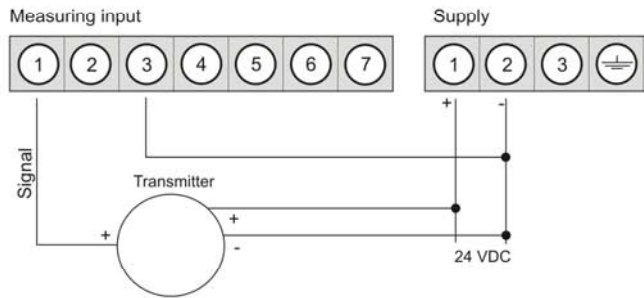
2-wire: 4-20 mA



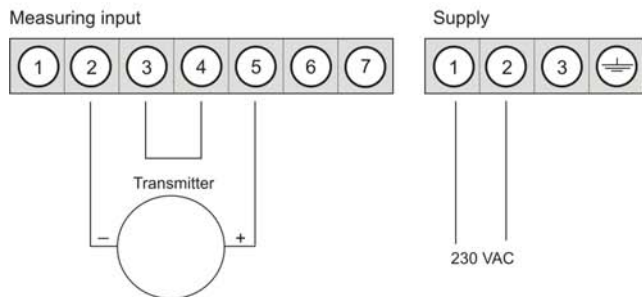
3-wire: 0-20 mA



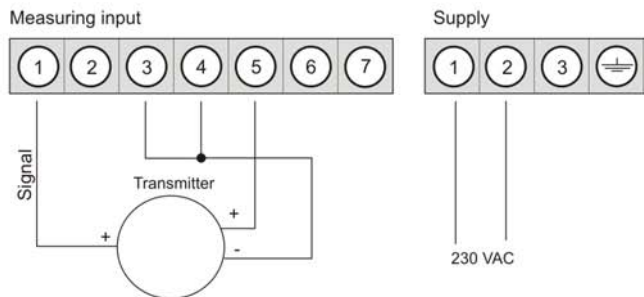
3-wire: 0-10 V / 0-5 V / 0-1 V / 1-6 V



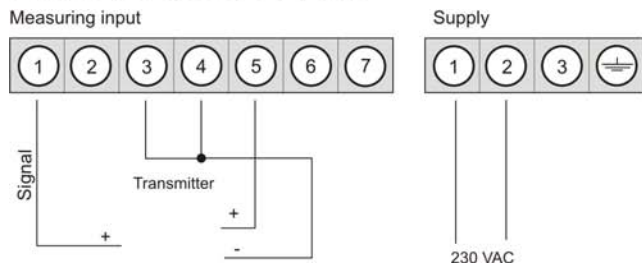
2-wire: 4-20 mA



3-wire: 0-20 mA



3-wire: 0-10 V / 0-5 V / 0-1 V / 1-6 V



Ordering code for large-size displays

| | | M | G- | A | V | R | 4 | 1 | 0 | 0 | 0 | 1 | 7 | 1 | 0 | B | D | 1 |
|-----------------------------|--|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard type M-Line | | | | | | | | | | | | | | | | | | |
| Large-size display | | | | | | | | | | | | | | | | | | |
| Housing type | | | | | | | | | | | | | | | | | | |
| Build-up housing | | A | | | | | | | | | | | | | | | | |
| Build-in housing | | B | | | | | | | | | | | | | | | | |
| Hanging/onesided | | C | | | | | | | | | | | | | | | | |
| hanging/double-sided | | D | | | | | | | | | | | | | | | | |
| Standing | | E | | | | | | | | | | | | | | | | |
| Portable | | T | | | | | | | | | | | | | | | | |
| Stainless steel | | V | | | | | | | | | | | | | | | | |
| Type | | | | | | | | | | | | | | | | | | |
| Interface | | B | | | | | | | | | | | | | | | | |
| Counter | | C | | | | | | | | | | | | | | | | |
| Frequency | | F | | | | | | | | | | | | | | | | |
| Temperature | | T | | | | | | | | | | | | | | | | |
| Standard signal | | V | | | | | | | | | | | | | | | | |
| 2x standard signal | | Z | | | | | | | | | | | | | | | | |
| Display colour | | | | | | | | | | | | | | | | | | |
| green LED | | G | | | | | | | | | | | | | | | | |
| red LED | | R | | | | | | | | | | | | | | | | |
| yellow LCD | | L | | | | | | | | | | | | | | | | |
| white LCD | | M | | | | | | | | | | | | | | | | |
| green LCD | | N | | | | | | | | | | | | | | | | |
| red LCD | | P | | | | | | | | | | | | | | | | |
| Number of digits | | | | | | | | | | | | | | | | | | |
| 4-digit | | 4 | | | | | | | | | | | | | | | | |
| 5- digit | | 5 | | | | | | | | | | | | | | | | |
| 6- digit | | 6 | | | | | | | | | | | | | | | | |
| 8- digit | | 8 | | | | | | | | | | | | | | | | |
| Digit height | | | | | | | | | | | | | | | | | | |
| 57 mm LED | | 1 | | | | | | | | | | | | | | | | |
| 100 mm LED | | 2 | | | | | | | | | | | | | | | | |
| 200 mm LED | | 5 | | | | | | | | | | | | | | | | |
| 60 mm LCD | | L | | | | | | | | | | | | | | | | |
| 100 mm LCD | | M | | | | | | | | | | | | | | | | |
| 150 mm LCD | | N | | | | | | | | | | | | | | | | |
| 250 mm LCD | | O | | | | | | | | | | | | | | | | |
| Interfaces | | | | | | | | | | | | | | | | | | |
| none | | 0 | | | | | | | | | | | | | | | | |
| RS232 / RS485 | | A | | | | | | | | | | | | | | | | |
| BCD | | B | | | | | | | | | | | | | | | | |
| Ethernet | | E | | | | | | | | | | | | | | | | |
| Profibus | | 9 | | | | | | | | | | | | | | | | |
| Terminal connection | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | | | | | | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| Dimension | | | | | | | | | | | | | | | | | | |
| | | 0 | | | | | | | | | | | | | | | | |
| | | D | | | | | | | | | | | | | | | | |
| | | Z | | | | | | | | | | | | | | | | |
| Version | | | | | | | | | | | | | | | | | | |
| | | B | | | | | | | | | | | | | | | | |
| Setpoints | | | | | | | | | | | | | | | | | | |
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| | | 2 | | | | | | | | | | | | | | | | |
| Protection class | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | | | | | | |
| Power supply | | | | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | S | | | | | | | | | | | | | | | | |
| Measuring input | | | | | | | | | | | | | | | | | | |
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| | | 3 | | | | | | | | | | | | | | | | |
| | | 6 | | | | | | | | | | | | | | | | |
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| | | C | | | | | | | | | | | | | | | | |
| | | K | | | | | | | | | | | | | | | | |
| Analog output | | | | | | | | | | | | | | | | | | |
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| Sensor supply | | | | | | | | | | | | | | | | | | |
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| | | 3 | | | | | | | | | | | | | | | | |
| | | J | | | | | | | | | | | | | | | | |