

Electronic Indicating Instruments

Digital Display

Standard, 3 ½-digit • Model A-RB-1

TRONIC LINE



- On-site programming without additional devices
- Display range -1999 ... + 1999
- Various input signals 4 ... 20 mA, 0 ... 20 mA, 0 ... 10 V
- Various output signals 4 ... 20 mA, 0 ... 20 mA, 0 ... 10 V
- Integrated power supply DC 24 V for the transmitter
- HOLD memory
- Option: 2 settable alarm contacts
- Option: RS 232 interface
- Option: memory of MIN- and MAX value
- Option: Damping of the display
- Easy and user-friendly operation



General features

The digital display has been specially designed to display values measured by electronic transmitters, such as pressure transmitters or temperature transmitters. The back of the instrument features detachable screw terminals for the input signals 4 ... 20 mA, 0 ... 20 mA and 0 ... 10 Volt as well as for the analog outputs 4 ... 20 mA, 0 ... 20 mA and 0 ... 10 Volt.

The display can be programmed via splashwater-protected keys at the front side of the instrument. Easily understood messages that appear on the bright LED display guide the user through all settable parameters step-by-step.

The rugged plastic case complies with DIN 43 700 (dimensions 96 x 48 x 190 mm) and can be built into front panels with a thickness of up to 40 mm.

Alarm contacts

Optionally the display can be fitted with 2 alarm contacts (model A-RB-1-D). The switching hysteresis of each of these freely programmable alarm contacts can be individually adjusted. The relay switching contacts are galvanically separated. Depending on the setting of the hysteresis above or below the switching value, the micro-processor recognises the selected switching function "MIN" or "MAX".

MIN and MAX memory

On request a digital MIN and MAX memory is available.

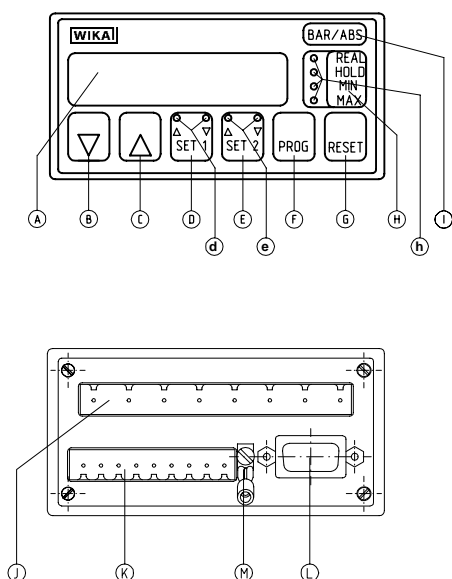
RS 232 interface

As an option an RS 232 interface is available for the digital processing of the display value. The interface protocol is included in the operating instructions.

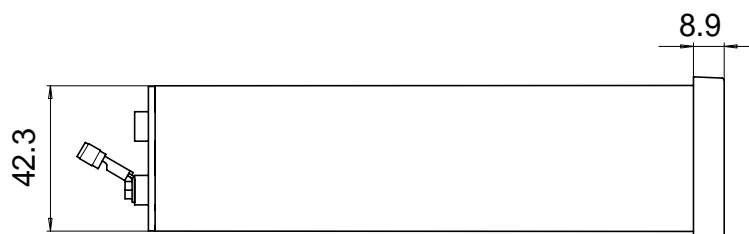
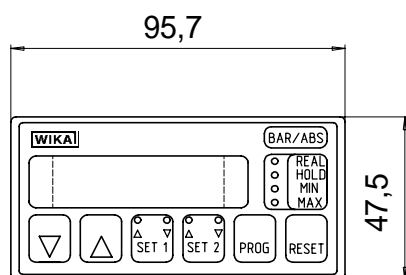
Damping of the display

In the case of fast changing display values, which might, for example, be caused by pressure pulsations, the display can be electronically damped to reach a more steady display value. The optional damping can be adjusted in 3 steps.

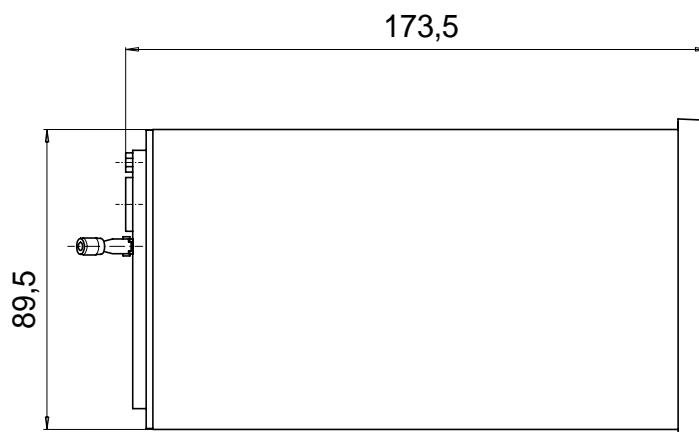
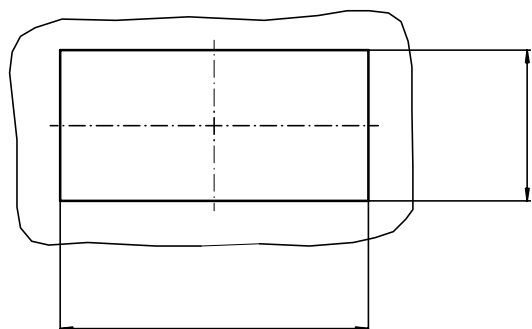
Specifications		Model A-RB-1
Display		7-segment red LED, height 14.56 mm
• Design		-1999 ... +1999
• Range		± 0.05 % of span ± 2 digit
• Accuracy		10 measurements {Damping, selectable in 3 steps}
Pick-up rate	1/s	E1: A/D converter overflow
Error message		E2: Display overflow (measured value exceeds maximum possible display value)
		E3: Message alternates with displayed value:
		Input signal lies beyond the programmed limits
Scaling adjustment		Menu driven. Zero and Span adjustable between -1999 and + 1999; adjustable decimal point
Signal input		Selectable as:
	mA	4 ... 20 or 0 ... 20
	V	0 ... 10
Analog output		Selectable as:
	mA	4 ... 20 or 0 ... 20
	V	0 ... 10
Response time (10 ... 90 %)	ms	100
{Digital output}		RS 232 interface
Power supply for Transmitter	DC V	24 + 5 %, approx. 30 mA, galvanic separation, short circuit protection (approx. 8 minutes)
CE - conformity		Interference emission per EN 50 081-2
		Interference compatibility per EN 61 000-6-2, declaration of conformity on request
		for cable lengths of > 30 m, shielded cables are to be used
		max. cable length to earth-clamp: 3 m
		electrical safety according to EN 61 010-1
Alarm contacts		Model A-RB-1-D
• Number of		2 settable
• Function		MAX/MIN adjustable by setting hysteresis values
• Switching point		adjustable over the complete display range
• Hysteresis		adjustable over the complete display range
• Response time	ms	approx. 100
• Accuracy		True value by means of digital control
• Contacts		1 potential-free relay contact for each alarm contact
• Load		AC 8A/250 V with ohmic load; AC 1 A/250 V with $\cos \varphi = 0.1$
HOLD memory		Standard feature; displayed value is fix, measurement and control of MIN and MAX values as well as limit values goes on.
{MIN/MAX memory}		Two separately working memories for MIN and MAX values
• Response time	ms	approx. 100; Individual or common reset enabled by pressing the RESET key.
		Unlimited data storage by digital memory
Power supply	AC V	50 or 60 Hz, 240/230 ± 6 %, by means of internal jumper; 0.04 A
	AC V	50 or 60 Hz, 110 ± 6 %, by means of internal jumper; 0.08 A
Electrical connection		detachable screw terminals; max. cable diameter 2.5mm ²
Permissible ambient temperature	°C	0 ... +50 0 ... +122 °F
Ingress protection		
per EN 60 529 / IEC 529		Front protection IP 65
Dimensions	mm	96 x 48 x 190 (incl. screw terminal) Case per DIN 43 700
Panel cutout	mm	92 x 45
Weight	kg	approx. 0.5; approx. 0.8 including all optional extras
{Accessories}		IP 65, front protection
		IP 65, digital indicator mounted in desktop case with grip and lockable frontdoor
		IP 65, digital indicator mounted in wall mounting case with lockable frontdoor
Items in curved brackets { } are optional extras for additional price.		



Dimensions in mm

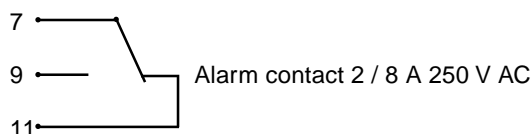
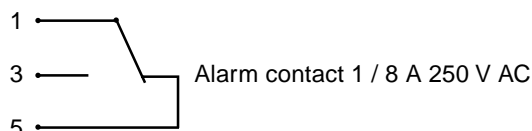


Panel cutout in mm



Designation of terminals

Screw terminal 'J' (power supply and alarm contacts)



13 } AC 50 or 60 Hz/240/230 V/0.04 A
15 } AC 50 or 60 Hz/110V/0.08 A

Screw terminal 'K' (transmitter input, analog output, power supply for the transmitter)

- 1 + U-in, voltage signal
- 2 - U-in, voltage signal
- 3 + I-in, current signal
- 4 - I-in, current signal
- 5 - analog output (common ground for current and voltage)
- 6 + 24 V, power supply for the transmitter
- 7 - GND, ground for the power supply of the transmitter
- 8 + analog output voltage
- 9 + analog output current

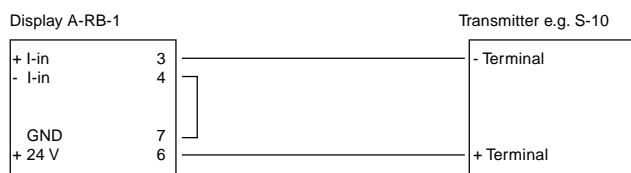
Sub-D plug 'L' (RS 232 interface, optional)

- 2 RX DATA
- 3 TX DATA
- 5 GROUND

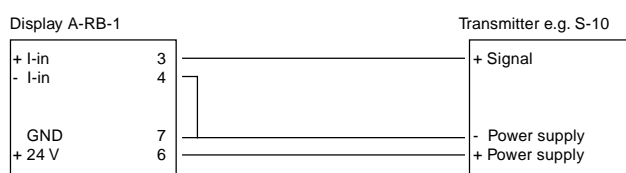
Wiring examples

Signal input

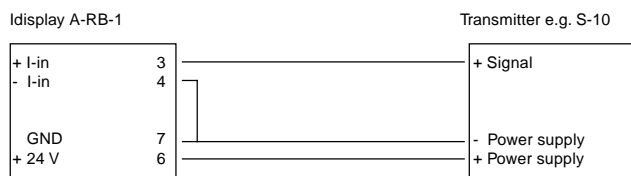
2-wire 4 ... 20 mA



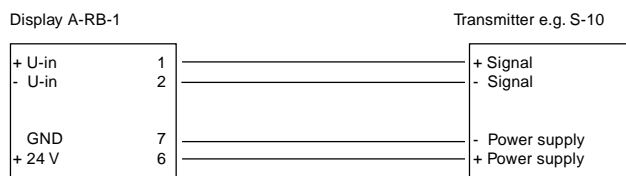
3-wire 0 ... 20 mA



3-wire 0 ... 10 V



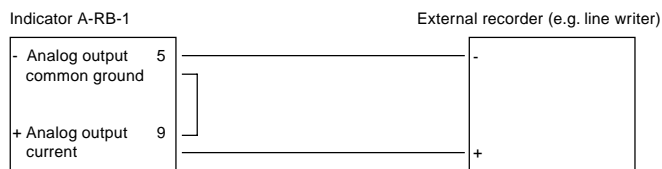
4-wire 0 ... 10 V



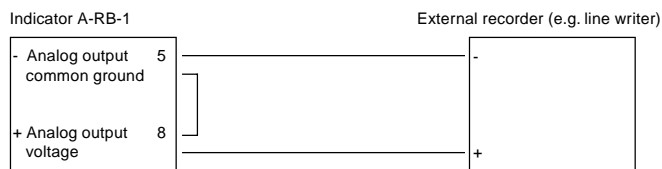
The digital display may also be operated in combination with a -transmitter (output signal 4 ... 20 mA). For this purpose a suitable -galvanic separator (e.g. model A-IVA-1) between the digital display and the -transmitter must be used (please see mounting and operating instructions for wiring examples).

Analog output

Current 0 (4) ... 20 mA



Voltage 0 ... 10 V



Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



WIKA Alexander Wiegand GmbH & Co. KG
Alexander-Wiegand-Straße · 63911 Klingenberg
☎ ++49 · 9372 · 132-0 · ☎ -406 / 414
<http://www.wika.de> · E-mail: support-tronic@wika.de