BD SENSORS
pressure measurement

Product catalogue

Display and evaluation devices

process displays - plug-on displays - field displays - datalogger

Your partner for electronical pressure and level measurement

BD|SENSORS

Pressure at the highest level

„Successful medium-size companies are not successful because they are active in many areas, but rather because they concentrate on one area and do it better than anyone else."

This is our philosophy. That's why BD|SENSORS has concentrated on electronic pressure measurement technology from the beginning.

With our unremitting product and quality strategy we have been successful in becoming a major player on the world market for electronic pressure sensing devices within a few years.

With 180 employees at 4 locations in Germany, the Czech Republic, Russia and China BD|SENSORS has solutions from **0.1 mbar to 2200 bar:**

- **Pressure sensors, pressure transducer, Pressure transmitters**
- **Electronic pressure switches**
- **Pressure measuring devices with display and switching output**
- **Hydrostatic level probes**
- **Displays and evaluation devices**

Two pressure transmitters and a submersible sensor, based on a stainless steel silicon sensor were the beginning. Today the range extends to more than **40 standard products,** from economical OEM devices to high-end products with HART® communication or field bus interface.

In addition we have developed hundreds of customerspecific **applications, underlining the competence and flexibility of BD|SENSORS.** The excellent price/efficiency ratio of our products is proof of **the fact that our are able to meet the toughest demand: Being a problem-solver for our customer.**

For large production batches as well as for small production numbers, no matter for what medium or external factors, with almost any mechanical or electrical interface – **we solve your problem flexibly, quickly and costconsciously.**

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	DESCRIPTION	DISPLAY	INPUT
PA 430	Plug-on Display self powered with Contacts and Ex-approval	4-digit, 7-segment- LED-display 4 x 7 mm, programmable	4 ... 20 mA, 0 ... 10 V
PA 440	Field Display with Contacts and Ex-approval	4-digit LED-display 4 x 10 mm 4-digit LCD-display 4 x 18 mm	4 ... 20 mA
CIT 200	Process Display	4-digit LED-display 4 x 13 mm	0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V, PT100 / PT500 / PT1000
CIT 250	Process Display with Contacts	4-digit LED-display 4 x 13 mm	0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V, PT100 / PT500 / PT1000
CIT 300	Process Display with Contacts and Analogue Output	4-digit LED-display 4 x 20 mm	0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V, PT100 / PT500 / PT1000
CIT 350	Process Display with Bargraph, Contacts and Analogue Output	4-digit LED-display 4 x 9 mm + 20-segment-Bargraph	0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V
CIT 400	Process Display with Contacts, Analogue Output and Ex-approval	4-digit 7-segment- LED-display 4 x 10 mm	4 ... 20 mA
CIT 600	Multichannel Process Display (LCD)	graphics-capable LC-display 128 x 64 pixel	2 / 4 / 8 ports: 0/4 ... 20 mA, PT100 / PT500 / PT1000
CIT 650	Multichannel Process Display (LCD) with Datalogger	graphics-capable LC-display 128 x 64 pixel	1 / 4 / 8 ports: 0/4 ... 20 mA, PT100 / PT500 / PT1000
CIT 700	Mulitchannel Process Display (TFT) with Contacts	graphics-capable TFT-display 320 x 240 pixel Touchscreen	max. 48 ports: 0 ... 20 mA, 0 ... 10 V max. 12 ports: PT 100 / PT 500 / PT 1000 max. 24 ports: thermocouple

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OUTPUT	HOUSING DIMENSIONS (B x H x T) IN mm	INTERFACE	PRODUCT PHOTO
0 / 1 / 2 PNP-contacts 4 ... 20 mA, 0 ... 10 V	plastic, rotatable 47 x 47 x 68	-	
0 / 1 / 2 PNP-contacts 4 ... 20 mA	plastic 120 x 80 x 57 aluminium 125 x 80 x 57	-	
-	front panel 72 x 36 x77 (95)	RS 485 Modbus RTU	
0 / 1 / 2 relay-contacts	front panel 72 x 36 x 77	RS 485 Modbus RTU	
0 / 2 / 4 relay-contacts 0/4 ... 20 mA	front panel 96 x 48 x 98	RS 485 Modbus RTU	
0 / 2 / 4 relay-contacts 0/4 ... 20 mA	front panel 48 x 96 x 98	RS 485 Modbus RTU	
2 / 4 relay-contacts 0/4 ... 20 mA	front panel 72 x 72 x 110 hat rail 70 x 75 x 110	-	
-	front panel 96 x 96 x 100	RS 485 Modbus RTU	
2 OC-contacts	front panel 96 x 96 x 100	RS 485 Modbus RTU USB-Host Port	
0 / 4 / 8 / 12 / 16 relay-contacts	front panel 96 x 96 x 100	RS 485 Modbus RTU, USB Host port, USB-device; RS 232; Ehternet 10 MB	

PA 430

Plug-on Display

Functional range

- free scalable display
- switch mode, hysteresis, parameterizable deceleration of the contacts
- display 330 ° rotatable
- connector 300 ° rotatable
- no external power supply necessary

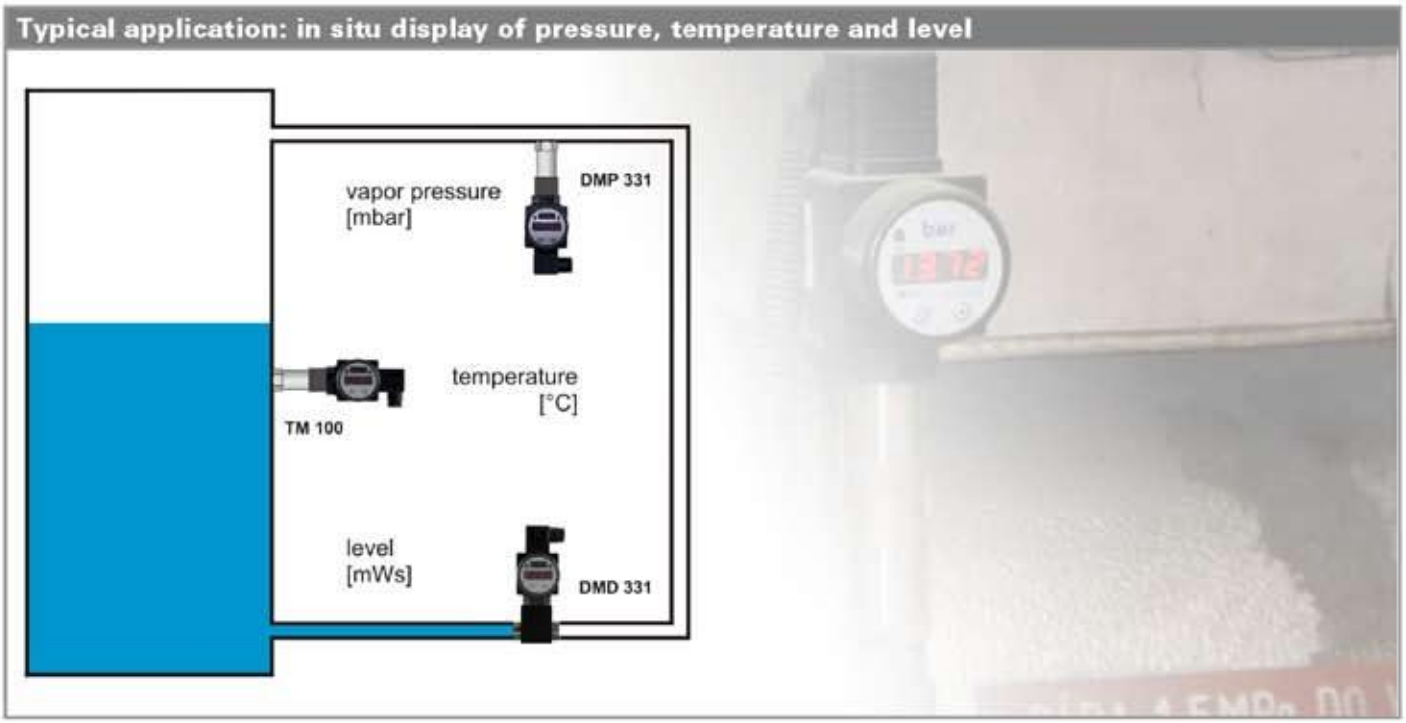
Product characteristics

- plug-on display for pressure transmitter with output signal: 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire
- 4-digit LED display

Optional versions

- IS-version
- 1 or 2 programmable contacts

Typical application: in situ display of pressure, temperature and level



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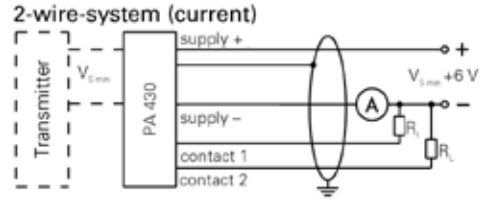
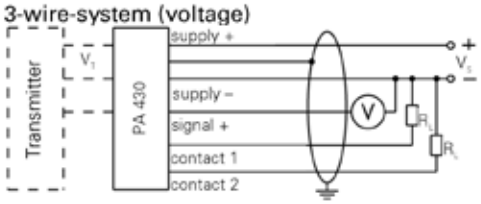
Analogue signal	
2-wire-system	2-wire: 4 ... 20 mA
Option Ex-protection	2-wire: 4 ... 20 mA
3-wire-system	0 ... 10 V
Supply	
2-wire-system	supplied by current loop; voltage drop ≤ 6 V; $V_S = (V_{T\,min} \ldots V_{T\,max}) + 6\ V_{DC}$ with V_T = supply of the used transmitter
	Ex-protection: max. 28 V_{DC} (for combination of transmitter and PA 430)
3-wire-system	display is supplied parallel with transmitter $V_{S\,min} = 8\ V_{DC} \ldots V_{T\,min}$; $V_{S\,max} = V_{T\,max} \ldots 36\ V_{DC}$ with V_T = supply of the used transmitter
Contact (optionally) [1]	
Number, type	max. 2 independent PNP open collector contacts
Switching performance	$V_{Switch} = V_S - 2$ V; contact rating max. 125 mA, short-circuit resistant
Repeatability	≤ ± 0.1 % FSO
Switching frequency	max. 10 Hz
Switching cycles	> 100 x 10^6
Delay time	0 ... 100 sec
[1] *max. 1 contact for: 4 ... 20 mA / 2-wire with plug ISO 4400; 0 ... 10 V / 3-wire with Binder 723 (5-pin) or M12x1; Ex-protection no contact possible with 0 ... 10 V / 3-wire with plug ISO 4400*	
Miscellaneous	
Electrical protection	reverse polarity protection (no damage, but also no function); electromagnetic compatibility (emission and immunity according to EN 61326); short-circuit protection; ingress protection IP 65
Display	4-digit, 7-segment red LED display, digit height 7 mm; range of indication -1999 ... +9999; accuracy 0.1 % ± 1 digit; digital damping 0.3 ... 30 sec (programmable); measured value update 0.0 ... 10 sec (programmable)
Permissible temperatures	electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C
Material of display housing	PA 6.6, polycarbonate
Mechanical stability	vibration: 5 g RMS (20 ... 2000 Hz) shock: 100 g / 11 msec
Explosion protection (with option Ex-protection) – only in combination with 1 contact	
Approval AX11-PA 430	zone (0) 1: II (1) 2 G EEx ia IIC T4
Safety techn. maximum values	U_i = 28 V; ΣI_i = 93 mA; ΣP_i = 660 mW; max. switching current [2]: 70 mA; max. inductivity: 4.7 mH
Permissible temperatures for environment	-25 ... 70° C
[2] *the real switching current in the application depends on the power supply unit*	

Wirings diagrams

2-wire-system (current)



3-wire-system (voltage)

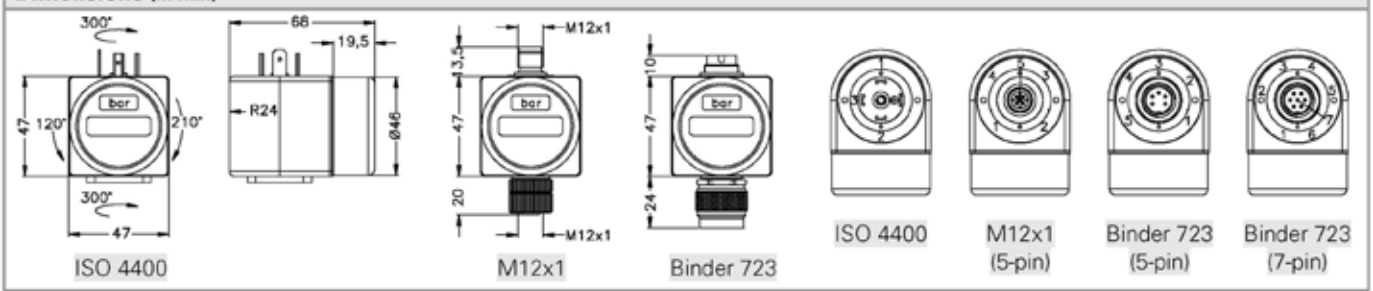


Pin configuration

Electrical connection	ISO 4400	M12x1 metal (5-pin)	Binder 723 (5-pin)	Binder 723 (7-pin) [3]
Supply +	1	1	3	3
Supply –	2	2	4	1
Signal + (for 3-wire)	3 [1]	3 [1]	1 [1]	-
Contact 1	3 [1]	5	2	-
Contact 2	-	3 [1]	1 [1]	-
Shield	ground pin	4	5	2

[3] *intended for usage with DMP 331i, DMP 333i and LMP 331i with el. connection Binder Series 723 (7-pin); Pins 4, 5, 6, 7 are wired through 1:1; standard without contacts; contacts on request; 3-wire version not possible*

Dimensions (in mm)



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PA 440

Field Display

Functional range

- free scalable display
- switch mode, hysteresis, parameterizable deceleration of the contacts
- no external power supply necessary

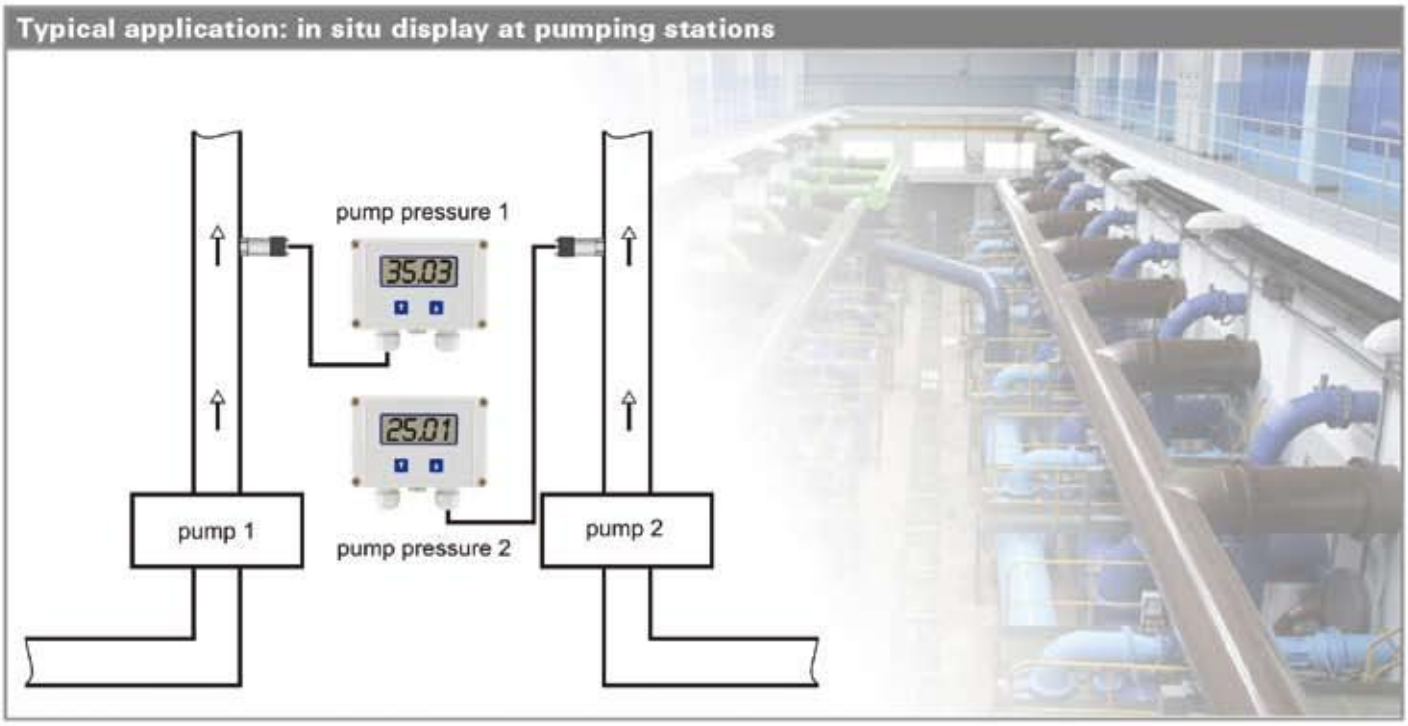
Product characteristics

- field display for pressure transmitter with output signal: 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire
- 4-digit LC display
- plastic or aluminium housing
- pressure compensation element with PTFE-Filter

Optional versions

- IS-version
- 1 or 2 contacts
- 4-digit LED display

Typical application: in situ display at pumping stations



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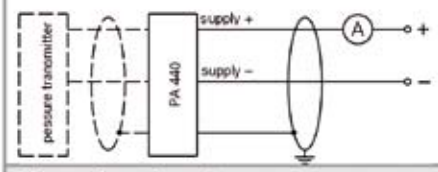
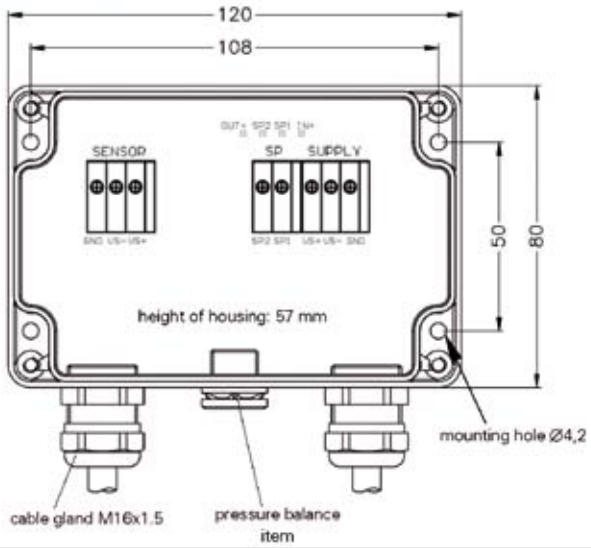
Analogue signal		
Standard	2-wire: 4 ... 20 mA	
Option IS-version	2-wire: 4 ... 20 mA	
Option 3-wire	0 ... 10 V (in preparation)	
Accuracy	IEC 60770: ≤ ± 0.2 % FSO	BFSL: ≤ ± 0.1 % FSO
Supply		
2-wire system	supplied by current loop; voltage drop ≤ 6.5 V	
	IS version: max. 28 V_{DC} (for combination with transmitter and PA 440)	
3-wire system	display is supplied parallel with transmitter; V_s = 8 V_{DC} ... 36 V_{DC}	
Contact (optionally for LED display)		
Number, type	max. 2 independent PNP open collector contacts	
Switching performance	contact rating max. 125 mA, short-circuit resistant	
Repeatability	≤ ± 0.2 % FSO	
Switching frequency	max. 8/sec	
Switching cycles	> 100 x 10^4	
Delay time	0 ... 100 sec	
Miscellaneous		
Electrical protection	reverse polarity protection (no damage, but also no function); electromagnetic compatibility (emission and immunity according to EN 61326); short-circuit protection	
Ingress protection	IP 65	
Display	4-digit, 7-segment LC display, range of indication -1999 ... +9999; accuracy 0.2 % ± 1 digit; standard: LC display, digit height 18 mm option: LED display, digit height 10 mm, red	
Permissible temperatures	electronics / environment / storage: -20 ... 70 °C	
Thermal error offset and span	≤ ± 0.15 % FSO / 10 K	
Material display housing	standard: plastic ABS, grey option: aluminium die cast case, grey powder-coating	
Cable entries	cable gland M16x1.5 Polyamide, seals NBR, diameter range: standard 5 ... 10 mm	
Atmospheric pressure compensation	pressure compensation element with PTFE filter	
Terminal clamps	vertical clamps for stranded and solid wires up to 2.5 mm^2	
Weight	plastic housing: approx. 220 g	aluminium die cast case: approx. 550 g
IS protection (optionally) – only in combination with LED display and max. 1 contact		
Approval AX15-PA 440	zone 1: II 2G Ex ia IIB T4	
Safety technical maximum	U_i = 28 V_{DC}, I_i = 93 mA, P_i = 660 mW	

Wiring diagram

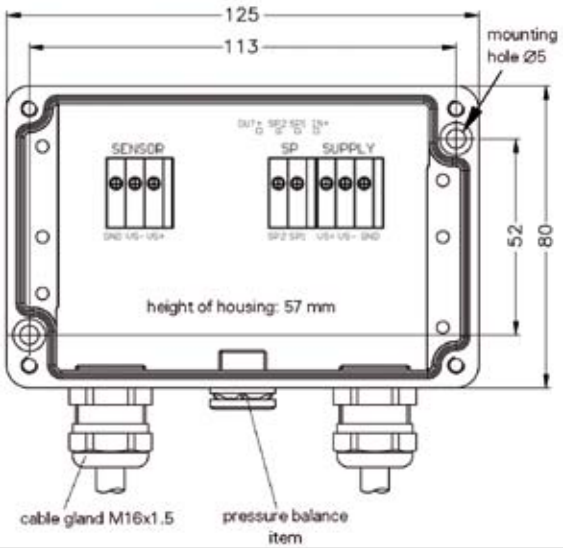


Dimensions (in mm)

plastic housing:



aluminium die cast case:



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CIT 200

Process Display

Functional range

- free scalable display
- 4 characteristic curve functions selectable (linear, root, square function or max. 20 free selectable supporting points)
- display brightness and filter adjustable
- programming via infrared remote control

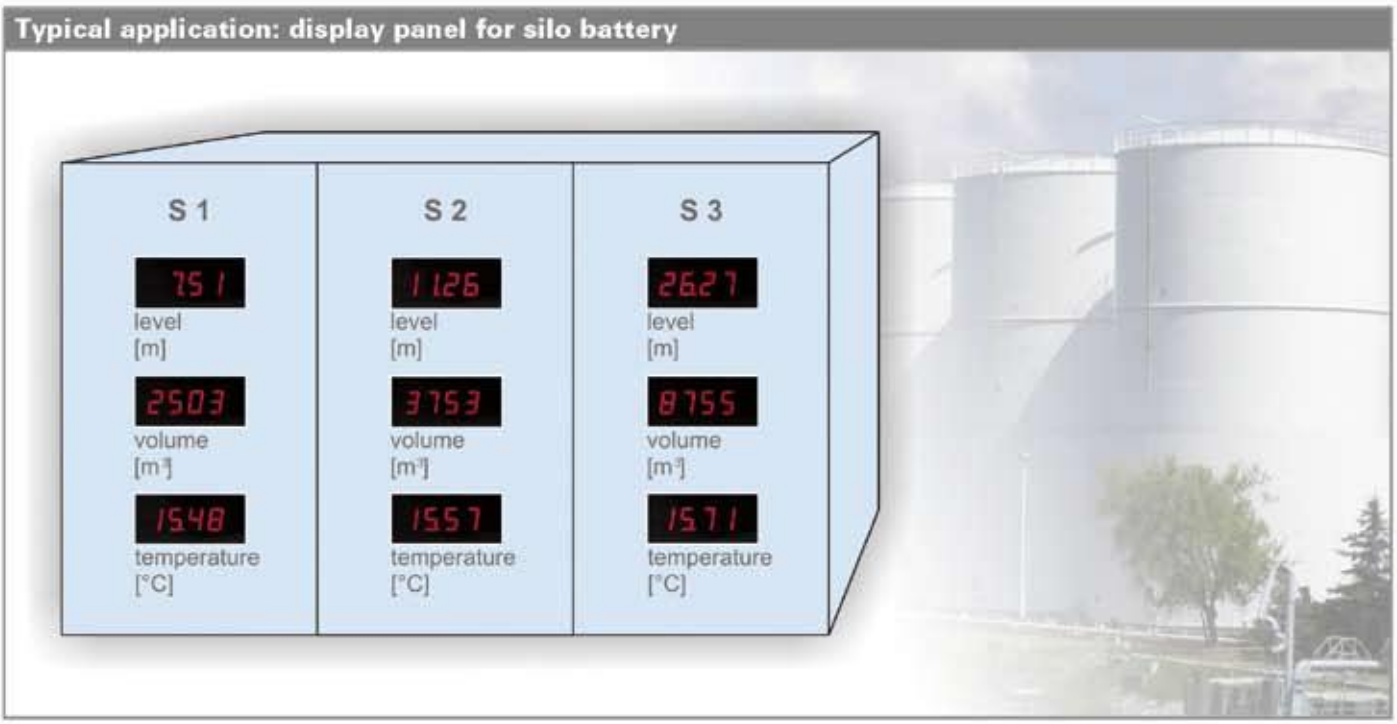
Product chracteristics

- input signal: 0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V
- 4-digit LED display
- communication interface RS-485 (Modbus RTU)
- front panel housing 72 x 36 mm

Optional versions

- input signal PT100 / PT500 / PT1000

Typical application: display panel for silo battery



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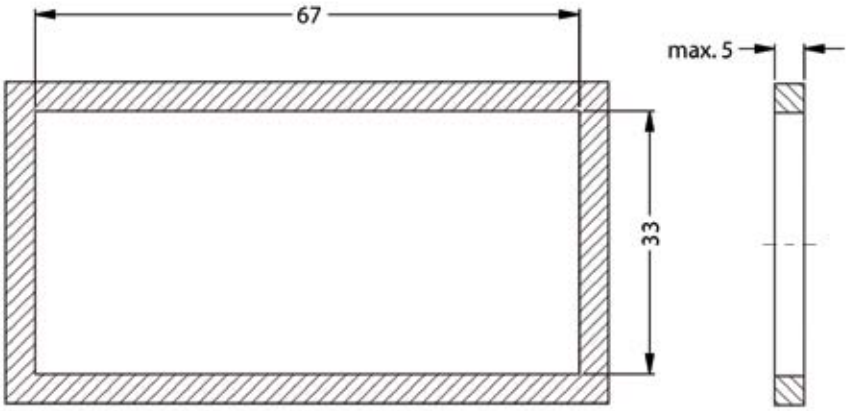
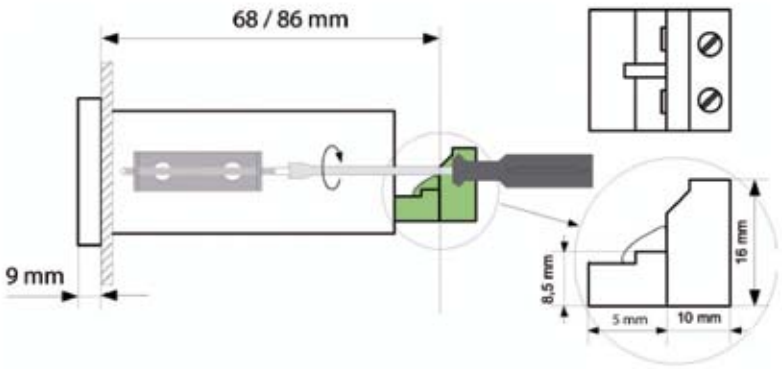
Supply	
Supply voltage	standard: 24 V_{DC} option: 110V_{AC} / 230 V_{AC}
Power consumption	24 V_{DC} version: max. 1 W 110V_{AC} / 230 V_{AC} version: max. 1.5 VA
Signal input	
Input signal	standard: 0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V option: PT100 / PT500 / PT1000
Communication / Performance	
Communication interface	RS-485 (Modbus RTU)
Transmission speed	1200 - 115200 bit/sec.
Type of protection	
Display	IP 40 (front side)
Permissible temperatures	
Operating temperature	-20 ... 50 °C
Storage temperature	-10 ... 70 °C
Miscellaneous	
Display	4-digit LED display, red, 4 x 13 mm
Range of indication	- 999 ... 9999 + decimal point / temperature range: -100 ... 600 °C
Accuracy	± 0.25 % ± 1 digit in the entire operation range
Housing dimensions	24 V_{DC} version: 72 x 36 x 77 mm 110V_{AC} / 230 V_{AC} version: 72 x 36 x 95 mm
Housing	panel
Housing material	NORYL UL94V-0
CE-conformity	EMC Directive: 2004/108/WE
Dimensions (in mm)	



mounting hole dimensions



dimensions of brackets and connectors

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CIT 250

Process Display with Contacts

Functional range

- free scalable display
- 4 characteristic curve functions selectable (linear, root, square function or max. 20 free selectable supporting points)
- switch mode, hysteresis, parameterizable deceleration of relay outputs
- display brightness and filter adjustable

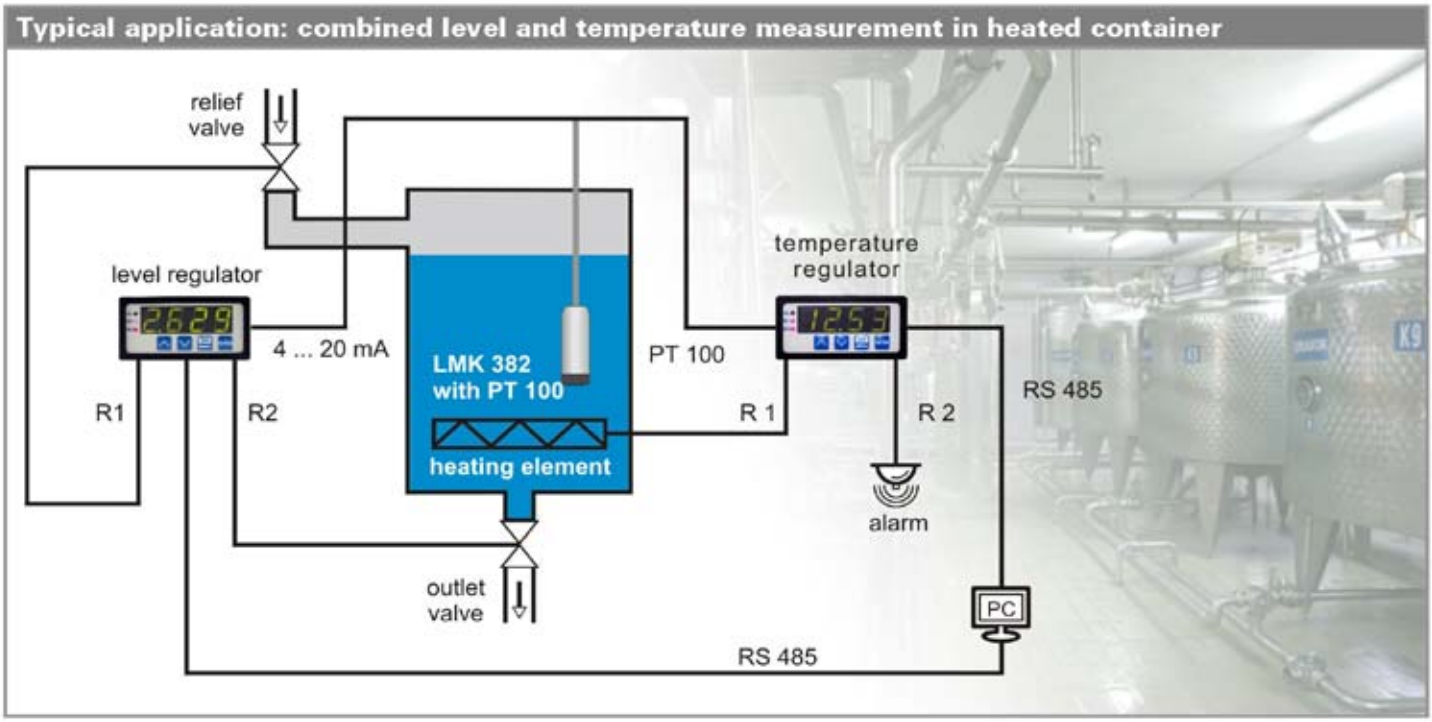
Product characteristics

- input signal: 0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V
- 4-digit LED display
- transducer supply 24 V_{DC}
- communication interface RS-485 Modbus
- front panel housing 72 x 36 mm

Optional versions

- input signal PT100 / PT500 / PT1000
- 1 or 2 contacts

Typical application: combined level and temperature measurement in heated container



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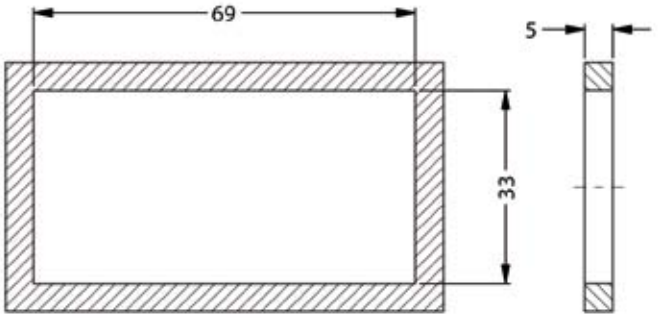
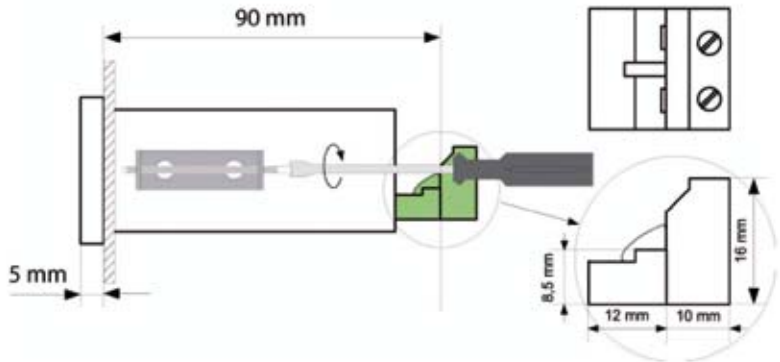
Supply	
Supply voltage	standard: 85 ... 260 V_{AC} or V_{DC} option: 16 ... 35 V_{AC} / 19 ... 50 V_{DC}
Power consumption	max. 4.5 VA or W
Signal input	
Input signal	standard: 0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V option: PT100 / PT500 / PT1000
Contacts (optional)	
Contact	1 or 2 SPST-relay
Switching voltage	max. 250 V_{AC}
Switching current	max. 1 A (cos φ 1)
Transducer supply	
DC	24 V_{DC} + 5%, - 10%, max. 100 mA
Communication / Performance	
Communication interface	RS-485 (Modbus RTU)
Transmission speed	1200 - 115200 bit/sec.
Permissible temperatures	
Operating temperature	0 ... 50 °C
Storage temperature	-10 ... 70 °C
Electrical protection	
Electrical safety	EN 61010-1
EMC	EN 61326
Miscellaneous	
Type of protection	IP 65 (front foil)
Display	4-digit LED display, red, 4 x 13 mm
Range of indication	- 999 ... 9999 + decimal point / temperature range: -100 ... 600 °C
Accuracy	± 0.25 % ± 1 digit in entire operation range
Housing dimensions	72 x 36 x 95 mm
Housing	panel
Housing material	NORYL-GFN2S E1
CE-conformity	EMC Directive: 2004/108/WE
Dimensions (in mm)	



mounting hole dimensions



dimensions of brackets and connectors

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CIT 300

Process Display with Contacts and Analogue Output

Functional range

- free scalable display
- 4 characteristic curve functions selectable (linear, root, square function or max. 20 free selectable supporting points)
- switch mode, hysteresis, parameterizable deceleration of the relay outputs
- display brightness and filter adjustable
- adjustable analogue output 0/4 ... 20 mA

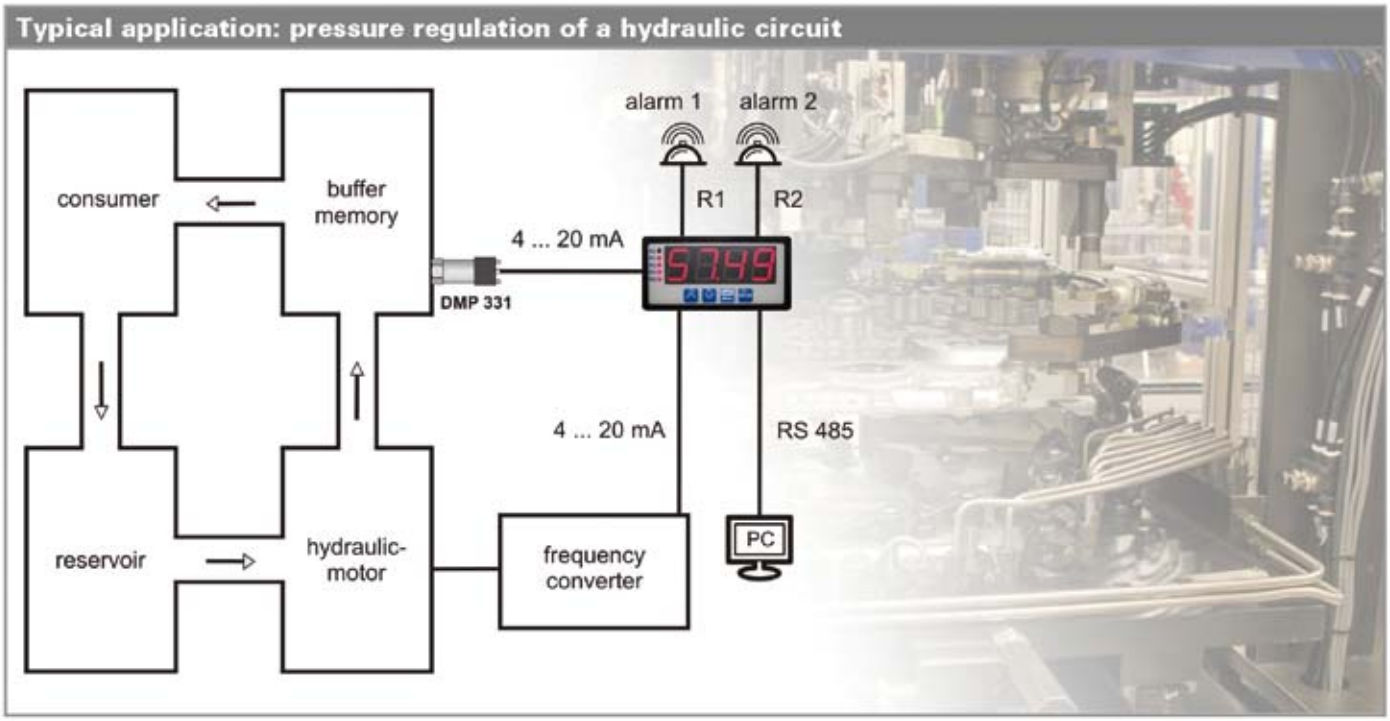
Product charcteristics

- input signal: 0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V
- 4-digit LED display
- transducer supply 24 V_{DC}
- communication interface RS-485 Modbus
- front panel housing 96 x 48 mm

Optional versions

- input signal PT100 / PT500 / PT1000
- 2 or 4 contacts, analogue output

Typical application: pressure regulation of a hydraulic circuit



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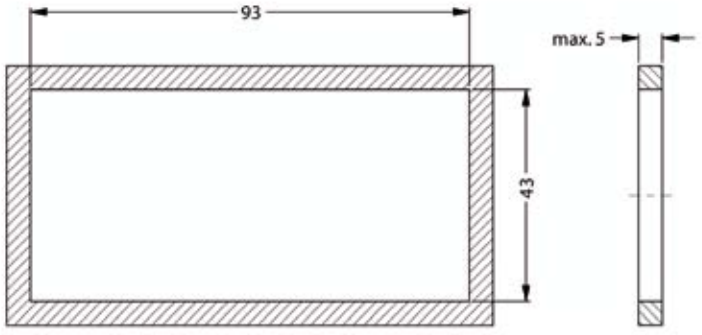
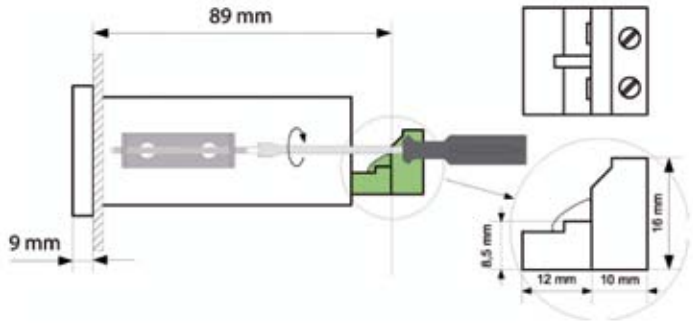
Supply	
Supply voltage	standard: 85 ... 260 V_{AC} or V_{DC} option: 16 ... 35 V_{AC} / 19 ... 50 V_{DC}
Power consumption	max. 4.5 VA or W
Signal input	
Input signal	standard: 0/4 ... 20 mA, 0 / 1 ... 5 V, 0/2 ... 10 V option: PT100 / PT500 / PT1000
Contacts (optional)	
Contact	2 or 4 SPST-relay
Switching voltage	max. 250 V_{AC}
Switching current	max. 1 A (cos φ 1)
Analogue output (optional)	
Output signal	0/4 ... 20 mA (only possible in combination with 2 contacts)
Permissible load	max. 700 Ω
Transducer supply	
DC	24 V_{DC} + 5%, - 10%, max. 100 mA
Communication / Performance	
Communication interface	RS-485 (Modbus RTU)
Transmission speed	1200 - 115200 bit/sec.
Permissible temperatures	
Operating temperature	0 ... 50 °C
Storage temperature	-10 ... 70 °C
Electrical protection	
Electrical safety	EN 61010-1
EMC	EN 61326
Miscellaneous	
Type of protection	IP 65 (front foil)
Display	4-digit LED display, red, 4 x 20 mm
Range of indication	- 999 ... 9999 + decimal point / temperature range: -100 ... 600 °C
Accuracy	± 0.25 % ± 1 digit in entire operation range
Housing dimensions	96 x 48 x 98 mm
Housing	panel
Housing material	NORYL-GFN2S E1
Mechanical connection (dimensions in mm)	



mounting hole dimensions



dimensions of brackets and connectors

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CIT 350

Process Display with Bargraph, Contacts and Analogue Output

Functional range

- twin-tone colouring bargraph
- free scalable display
- 4 characteristic curve functions selectable (linear, root, square function or max. 20 free selectable supporting points)
- switch mode, hysteresis, parameterizable deceleration of the relay outputs
- display brightness and filter adjustable
- adjustable analogue output 0/4 ... 20 mA

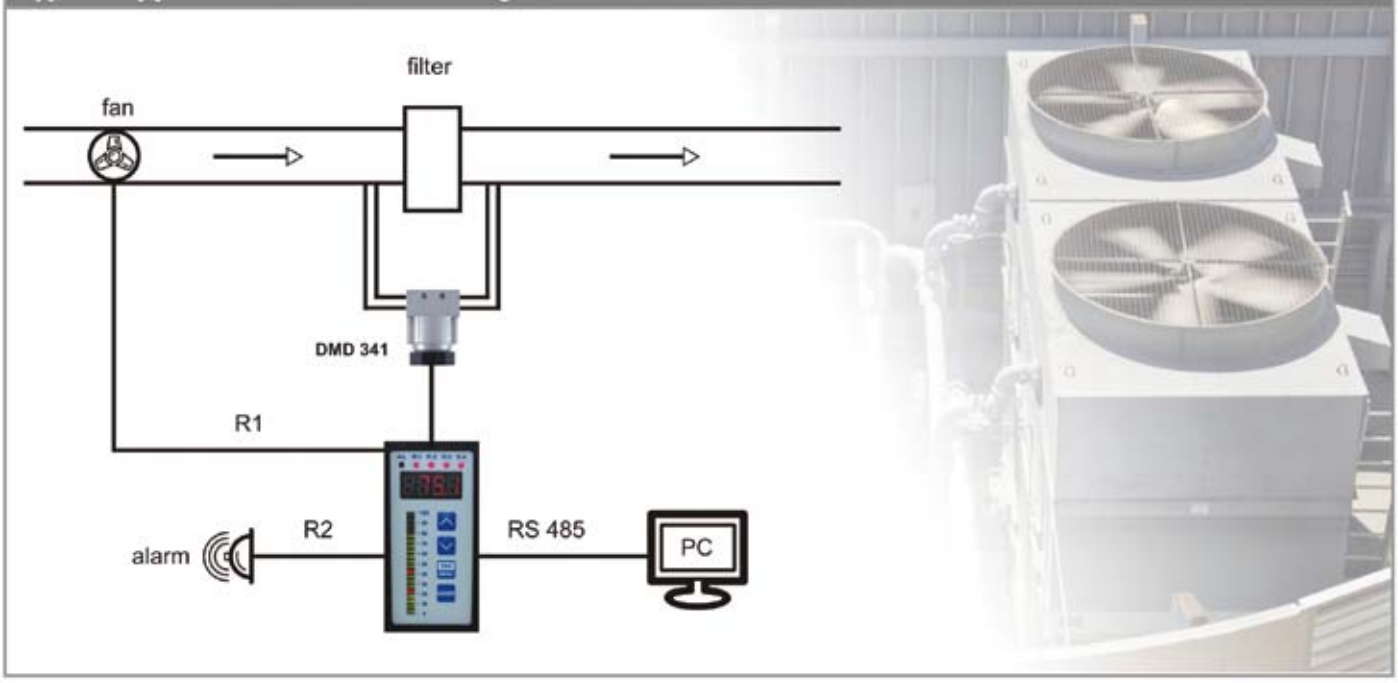
Product characteristics

- input signal: 0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V
- 4-digit LED display
- 20-segment bargraph
- transducer supply 24 V_{DC}
- communication interface RS-485 (Modbus RTU)
- front panel housing 48 x 96 mm

Optional versions

- 2 or 4 contacts, analogue output

Typical application: filter controlling



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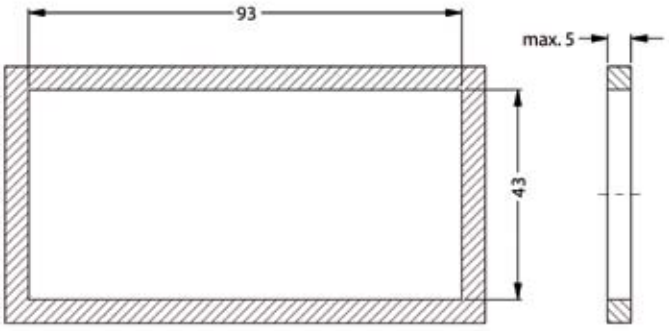
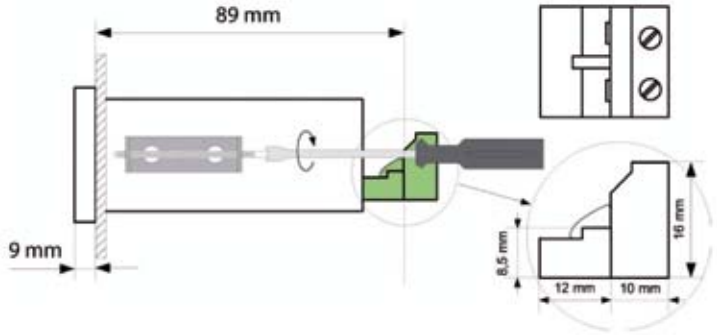
Supply	
Supply voltage	standard: 85 ... 260 V_{AC} or V_{DC} option: 16 ... 35 V_{AC} / 19 ... 50 V_{DC}
Power consumption	max. 4.5 VA or W
Signal input	
Input signal	0/4 ... 20 mA, 0/1 ... 5 V, 0/2 ... 10 V
Contacts (optional)	
Contact	2 or 4 SPST-relay
Switching voltage	max. 250 V_{AC}
Switching current	max. 1 A (cos φ 1)
Analogue output (optional)	
Output signal	0/4 ... 20 mA (only possible in combination with 2 contacts)
Permissible load	max. 700 Ω
Transducer supply	
DC	24 V_{DC} + 5%, - 10%, max. 100 mA
Communication / Performance	
Communication interface	RS-485 (Modbus RTU)
Transmission speed	1200 - 115200 bit/sec.
Permissible temperatures	
Operating temperature	0 ... 50 °C
Storage temperature	-10 ... 70 °C
Electrical protection	
Electrical safety	EN 61010-1
EMC	EN 61326
Miscellaneous	
Type of protection	IP 65 (front foil)
Display	4-digit LED display, red, 4 x 9 mm; 20-segment bargraph
Range of indication	- 999 ... 9999 + decimal point
Accuracy	± 0.25 % ± 1 digit in entire operation range
Housing dimensions	48 x 96 x 98 mm
Housing	panel
Housing material	NORYL-GFN2S E1
CE-conformity	EMC Directive: 2004/108/WE
Mechanical connection (dimensions in mm)	



mounting hole dimensions



dimensions of brackets and connectors

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

CIT 400

Process Display with Contacts, Analogue Output and Ex-approval

Functional range

- free scalable display
- linearisation via max. 32 free selectable supporting points
- switching mode delay of the relay inputs and outputs, parameterizable calibration
- simulation / testing mode

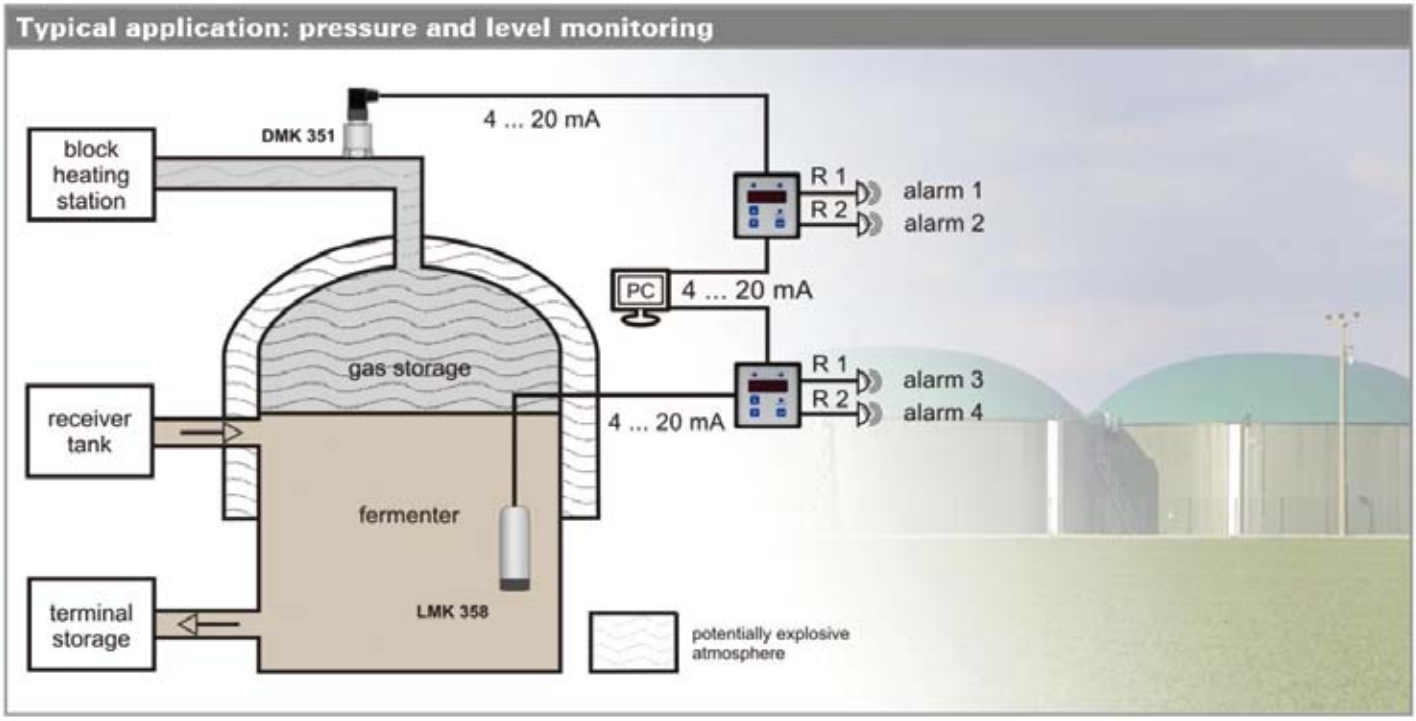
Product characteristics

- input signal: 0/4 ... 20 mA
- 4-digit LED display
- housing variant: front panel or hat rail
- 2 or 4 limit value relays and 1 alarm relay
- scalable analogue output

Optional versions

- supply voltage 230 V_{AC}
- Ex-approval

Typical application: pressure and level monitoring



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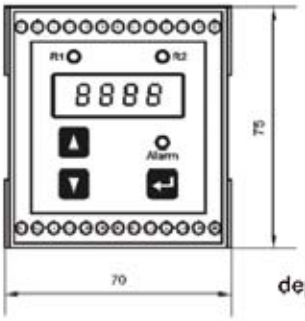
Signal output		
Output signal, permissible load	0/4 ... 20 mA, max. 500 Ω, galvanically insulated	
Signal input		
2-/ 3-wire-system	4 ... 20 mA (in front panel housing only 2-wire-system)	
Load	R_i = 50 Ω; input current max. 75 mA without damage; protected by poly-switch	
Supply		
Supply voltage AC-device	standard: 230 V_{AC}, 50/60 Hz others on request	
	IS-protection (optional): 100 ... 240 V_{AC}, 50/60 Hz	
Supply voltage DC-device	standard: 24 V_{DC} ± 10 % others on request	
	IS-protection (optional): 18 ... 36 V_{DC}	
Power consumption	standard: approx. 4 VA option: approx. 6 VA	
Contact / Alarm relay		
Contacts	standard: 2 independent relay contacts (floating SPDT) option: 4 independent relay contacts (floating SPDT)	
Alarm relay	1 relay contact (floating SPDT with hat rail housing; floating NO with front panel housing); notifies broken line and over-current	
Switching voltage	max. 230 V_{AC}	
Switching current	max. 5 A (cos φ 0.9)	
Sensor supply		
DC device	V_s – 3 V	IS-protection (optional): approx. 14.5 V @ 20 mA
AC device	approx. 14 V @ 20 mA; approx. 20.5 V @ 4 mA	
Sensor current limit		
Standard	approx. 32 mA	
Ex-protection (optional)	linear limit, electronic limit approx. 37 mA	
Electrical protection		
Short-circuit protection	permanent - galvanic insulation of the contacts against measuring circuit and power supply	
Reverse polarity protection	DC device: no damage, but also no function	
EMC	emission and immunity according to EN 61326	
Electrical connection		
Standard	with fixed terminal clamp ; clamp section 2.5 mm²	
Housing		
	front panel housing	hat rail housing
Material	Noryl	ABS
Ingress protection	housing: IP 40 / IP 65 [1] clamps: IP 20	housing: IP 40 clamps: IP 20
[1] *IP 65 can be reached by an additional, front sided sealing with a flexible transparent protection cover (available as accessory)*		
Miscellaneous		
Display	4-digit 7-segment-LE display, red; digit height 10 mm; digit with 7.5 mm; range of indication -1999 ... 9999; accuracy 0.2 % ± 1 Digit	
LEDs	contacts: green alarm: red	
Permissible temperatures	electronics / environment/ storage: -20 ... 60 °C	
Weight	AC-device: approx. 450 g DC-device: approx. 300 g	
Explosion protection (optional) – only in combination with 2 contacts		
Approval AX13-CIT 400	II (1) GD [EEx ia] IIC	
Safety technical maximum values	U_o = 25.2 V, I_o = 84.8 mA, P_o = 535 mW; IIC: C_o = 107 nF; L_o = 5.7 mH	
Permissible temperatures	environment: -20 ... 40 °C	

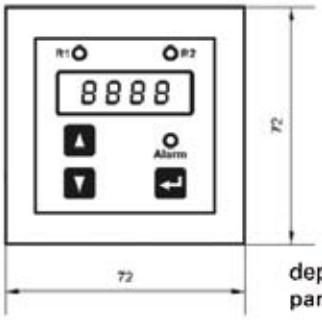
Dimensions (in mm)

hat rail mounting



depth: 110 mm

front panel mounting



depth: 110 mm
panel cut-out: 68 x 68 mm

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CIT 600

Multichannel Process Display LCD

Functional range

- data and configuration transfer via RS-485
- adjustable contrast and illumination of the display
- programmable display filter
- parameterizable under-run and exceeding range alarms
- sample rates from 0.125 sec up to 5 min selectable
- including software for parameterization display and archiving of the measured values

Product characteristics

- 2, 4 or 8 input ports
- input signal: 0/4 ... 20 mA
- graphic LC display
- transducer supply 24 V_{DC}
- communication interface RS-485 (Modbus RTU)
- front panel housing 96 x 96 mm

Optional versions

- input signal PT100 / PT500 / PT1000
- lockable door

Display modes

- simultaneous display of max. 8 ports with scalable measured value and unit or standardized measured value and bargraph

- online course display of one port in the diagram with scalable measured value, bargraph and unit (timeline of the measured value course from 12 sec up to 8 h scalable)

- single port display with scalable and standardized measured value, bargraph and unit

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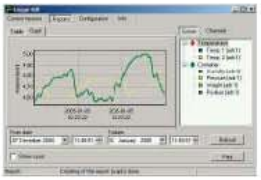
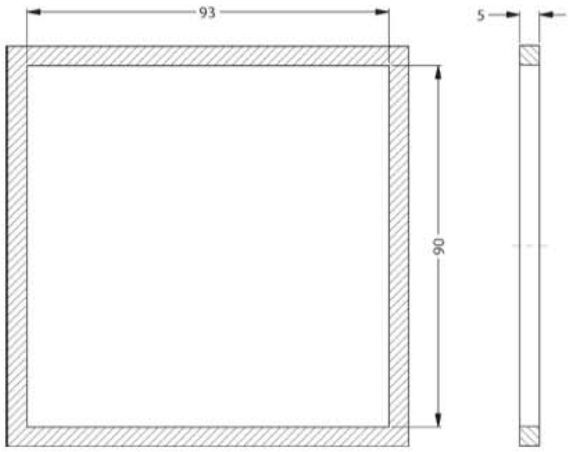
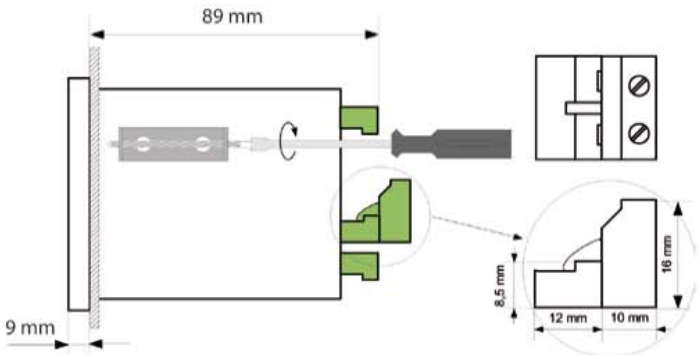
Supply	
Supply voltage	standard: 85 ... 260 V_{AC} or V_{DC} option: 16 ... 35 V_{AC} / 19 ... 50 V_{DC}
Power consumption	7 VA, max. 12 VA
Signal input	
Number	2, 4 or 8 inputs
Input signal	standard: 0/4 ... 20 mA option: PT100 / PT500 / PT1000
Measuring range	current inputs: ± 9999 temperature inputs: -100 ... 600 °C
Transmitter supply	
DC	current inputs: 24 V_{DC} ± 5% max. 200 mA temperature inputs: max. 50 mA
Communication / Performance	
Communication interface	RS-485 (Modbus RTU, galvanically separated)
Transmission speed	1200 - 115200 bit/sec.
Permissible temperatures	
Operating temperature	0 ... 50 °C
Storage temperature	-10 ... 70 °C
Electrical protection	
Electrical safety	EN 61010-1
EMC	EN 61326
Miscellaneous	
Type of protection	IP 65 (front foil)
Display	LCD, 128 x 64 points, with backlight
Accuracy	± 0.25 % ± 1 digit in entire operation range
Housing dimensions	96 x 96 x 98 mm
Housing / housing material	panel / NORYL-GFN2S E1
Software	
Setup-600	 The Software Setup-600 enables the complete configuration of the CIT 600 via PC. The data transfer is done by the RS 485-interface of the CIT 600 or a connected converter.
Mechanical connection (dimensions in mm)	
 mounting hole dimensions	 dimensions of brackets and connectors
Special version	
Lockable, transparent door	
Accessoires	
Converter RS 485 / USB	
Converter RS 485 / RS 232	

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CIT 650

Multichannel Process Display LCD with Datalogger

Functional range

- direct archiving of measured values onto USB stick or internal memory
- data and configuration transfer via USB stick or RS-485
- sample rates from 0.125 sec up to 1 h selectable
- triggering of recorded measured values via digital input
- parameterizable under-run and exceeding range alarms
- adjustable contrast and brightness of the display
- programmable display filter
- including software for parameterization display and archiving of measured values

Product characteristics

- 1, 4 or 8 analogue input ports
- input signal: 0/4 ... 20 mA
- 1 digital input port
- internal memory: 2 MB
- graphics-capable LC display
- transducer supply 24 V_{DC}
- communication interface RS-485 (Modbus RTU)
- front panel housing 96 x 96 mm

Optional versions

- input signal PT100 / PT500 / PT1000
- USB-Host-Port, internal memory: 8 MB
- lockable door

Display modes

- simultaneous display of max. 8 ports with scalable measured value and unit or standardized measured value and bargraph

- online course display of one port in the diagram with scalable measured value, bargraph and unit (timeline of the measured value course from 12 sec up to 96 h scalable)

- single port display with scalable and standardized measured value, bargraph and unit

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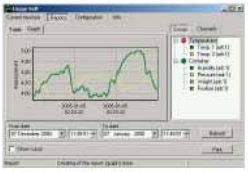
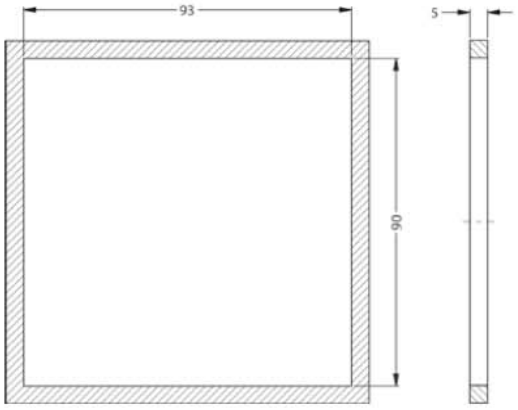
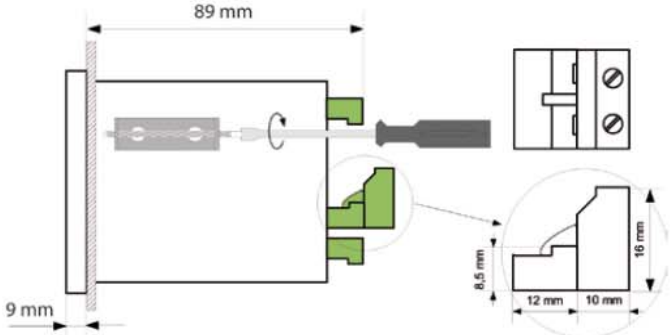
Supply		
Supply voltage	standard: 85 ... 260 V_{AC} or V_{DC}	option: 19 ... 50 V_{DC} / 16 ... 35 V_{AC}
Power consumption	7 VA, max. 12 VA	
Signal input		
Number	1, 4 or 8 inputs	
Input signal	standard: 0/4 ... 20 mA	option: PT100 / PT500 / PT1000
Measuring range	current inputs: ± 9999	temperature inputs: -100 ... 600 °C
Digital	1 input 24 V_{DC}, (galvanically separated)	
Transmitter supply		
DC (without galvanically separation)	current inputs: 24 V_{DC} ± 5% max. 200 mA temperature inputs: max. 50 mA	
Contacts		
Contact	2 independent relay outputs	
Switching voltage	max. 24 V_{AC}	
Switching current	max. 200 mA (cos φ 1)	
Communication / Performance		
Communication interface	standard: RS-485 (Modbus RTU)	option: USB-2.0-port (galvanically separated)
Transmission speed	1200 - 115200 bit/sec.	
Internal memory	standard: 2 MB (version without USB-2.0-port)	option: 8 MB (version with USB-2.0-port)
Type of protection		
Version without USB-port	IP 65 (front foil)	
Version with USB-port	standard: IP 40	option: IP 42 (with lockable front)
Permissible temperatures		
Operating temperature	0 ... 60 °C	
Storage temperature	-10 ... 70 °C	
Electrical protection		
Electrical safety / EMC	EN 61010-1 / EN 61326	
Miscellaneous		
Display	LCD, 128 x 64 points, with backlight	
Accuracy	± 0.25 % ± 1 digit in entire operation range	
Housing dimensions	96 x 96 x 100 mm	
Housing / housing material	panel / NORYL-GFN2S E1	
Software		
Setup-650		The Software Setup-650 enables the visulization, archiving and printing of measurements and the complete configuration of the CIT 650 via PC. The data transfer is done by the RS 485-interface of the CIT 650 or a connected converter.
Mechanical connection (dimensions in mm)		
 mounting hole dimensions	 dimensions of brackets and connectors	
Special version		
Lockable, transparent door		
Accessoires		
Mini USB Stick 2 GB		
Converter RS 485 / USB		
Converter RS 485 / RS 232		

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

CIT 700

Multichannel Process Display TFT with Contacts

Functional range

- configuration of max. 60 channels via inputs, outputs, mathematical functions, controller or virtual outputs
- allocation of clogged channels in groups (max. 6 channels per group)
- connection of channels via mathematical functions
- 5 integrated PD / PI / PID controller
- parameterizable under-run and exceeding range alarms

Product characteristics

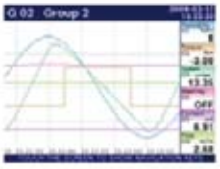
- graphics-capable TFT monitor, touchscreen
- 3 free fittable slots
- 12 different input / output modules
- 1 digital input channel
- transducer supply 24 V_{DC}
- communication interface: RS-485 (Modbus RTU), USB-Host-Port, USB device connection
- front panel housing 96 x 96 mm

Optional versions

- communication interface: 2 x RS-485, 1 x RS-232, 2 x USB-Host-Port, Ethernet 10 MB, RJ-45

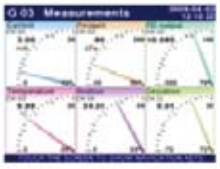
Display modes

- channel display of the individual groups with units, bargraph and scalabled plus standardized measured values



- horizontal or vertical online course channel display of a group in the diagram with units and scalabled measured values

- horizontal and vertical bargraph channel display of a group with units and scalabled plus standardized measured values



- channel display of the individual groups as indicator instrument with units and scalabled plus standardized measured values

- simultaneous display of max. 5 groups respectively 30 channels with units and scalabled measured values

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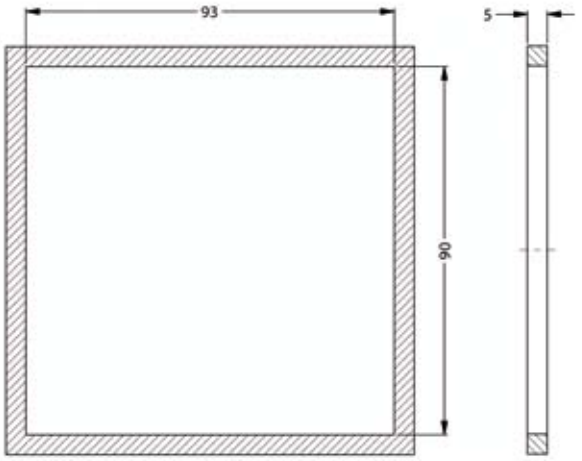
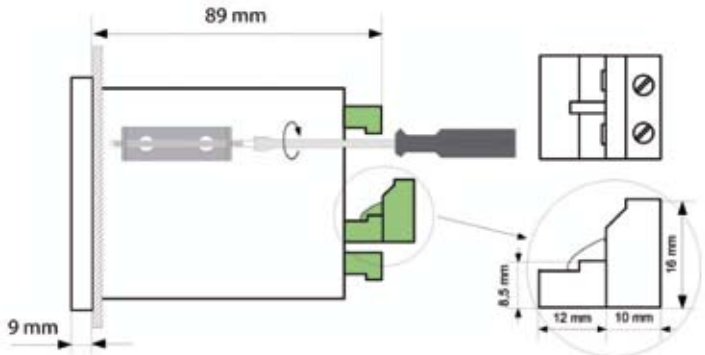
Versorgung	
Betriebsspannung	Standard: 85 ... 260 V_{AC} / V_{DC} optional: 19 ... 50 V_{DC} / 16 ... 35 V_{AC}
Leistungsaufnahme	15 VA, max. 20 VA
Signaleingang / -ausgang	
Slot A	
Eingangsmodul	4 x 0 ... 10 V + 4 x 0 ... 20 mA 8 x 0 ... 10 V + 8 x 0 ... 20 mA 16 x 0 ... 10 V 16 x 0 ... 20 mA 4 x PT100 / PT500 / PT1000 4 x Thermoelement (J, K, S, T, N, R, B, E) 8 x Thermoelement (J, K, S, T, N, R, B, E) 4 x Universaleingang (0 ... 10 V / 0 ... 20 mA / PTxxx / Thermoelement)
Slot B	
Eingangsmodul	4 x 0 ... 10 V + 4 x 0 ... 20 mA 8 x 0 ... 10 V + 8 x 0 ... 20 mA 16 x 0 ... 10 V 16 x 0 ... 20 mA 4 x PT100 / PT500 / PT1000 4 x Thermoelement (J, K, S, T, N, R, B, E) 8 x Thermoelement (J, K, S, T, N, R, B, E) 4 x Universaleingang (0 ... 10 V / 0 ... 20 mA / PTxxx / Thermoelement)
Ausgangsmodul	8 Relais (max. 1 A, 250 V)
Slot C	
Eingangsmodul	4 x 0 ... 10 V + 4 x 0 ... 20 mA 8 x 0 ... 10 V + 8 x 0 ... 20 mA 16 x 0 ... 10 V 16 x 0 ... 20 mA 4 x PT100 / PT500 / PT1000 4 x Thermoelement (J, K, S, T, N, R, B, E) 8 x Thermoelement (J, K, S, T, N, R, B, E) 4 x Universaleingang (0 ... 10 V / 0 ... 20 mA / PTxxx / Thermoelement)
Ausgangsmodul	8 Relais (max. 1 A, 250 V) 4 Relais (max. 5 A, 250 V) 8 Halbleiterrelais (max. 100 mA, 15 V) 16 Halbleiterrelais (max. 100 mA, 15 V)
Messumformerspeisung	
DC	Stromeingänge: 24 V_{DC} ± 5%, max. 200 mA
Kommunikation / Signalverhalten	
Kommunikationsschnittstelle	Standard: RS-485 (Modbus RTU), USB Host port (an der Rückwand), USB-Gerät optional: 3 x RS-485/RS-232, 2 x USB Host, 1 x USB Gerät, 1 x Ethernet 10 MB
Schutzart	
Version ohne / mit USB-port	Standard: IP 65 (Frontfolie) optional: IP 42 (mit abschließbarer Front)
Temperatureinsatzbereiche	
Betriebstemperatur	0 ... 60 °C
Lagertemperatur	-10 ... 70 °C
Elektrische Schutzmaßnahmen	
Elektrische Sicherheit	EN 61010-1
EMV	EN 61326
Sonstiges	
Display	TFT, 3,5", Touchscreen, grafikfähig, farbig (16 bit), 320 x 240 Pixel
Gehäuseabmessungen	96 x 96 x 100mm
Gehäuse	Fronttafelmontage
Gehäusematerial	NORYL-GFN2S E1

Extended functions
Programmable display filter
Integrated date and time display
Adjustable contrast and brightness of display
Screensaver
Extensive password protection

Dimensions (in mm)



mounting hole dimensions



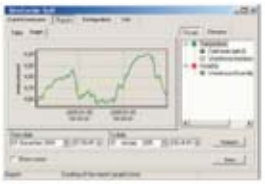
installing of brackets

Special version

Lockable, transparent door

Accessories

Software Setup-700



Setup-700 software allows visualization, archiving and printing of recorded measurements. The whole measurement data is stored in special database on hard drive. Graphical presentation simplifies further analysis of the data. Setup-700 has built in module for generation of alarms, what make managing of the processes easier for personnel. Software can operate as data server in LAN/WAN network.

Mini USB Stick 2 GB

Converter RS-485/ RS-232

Converter RS-485/USB

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4 Advantages for you produced by BD|SENSORS

Competence:

Industrial pressure measurement technology from 0.1 mbar up to 2200 bar

- Pressure transmitters, electronic pressure switches or hydrostatic level probes
- OEM and High-End products
- Standard products and customer-made solutions
- Display and evalutation devices

BD|SENSORS has the right pressure measuring device at the right price.

Price/Efficiency:

Concentration on electronic measuring devices has led to extraordinary efficiency and economical pricing.

BD|SENSORS is certain to be one of the most economical suppliers on the world market, given equal technical and commercial conditions.

Reliability:

Short delivery times and firm dead-lines, even for special designs, make BD|SENSORS a reliable partner for our customers.

BD|SENSORS reduces the levels of your stock-keeping and increases your profi tability.

Flexibility:

We solve your problem in industrial pressure measuring technology quickly and economically, not only with large-scale production lines but also with the smaller requirements.

BD|SENSORS is especially flexible when technical support and quick assistance are required, as well as with orders needed quickly.

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