MINIPAQ-HLP



Basic Programmable 2-wire Transmitter

MINIPAQ-HLP is a basic, programmable non-isolated, easy-to-use 2-wire transmitter. The Low Profile housing has a hight of only 18.5 mm / 0.72 inch. Configuration is made in seconds with the user friendly Windows software, MINIPAQ Soft. No external power supply required for configuration. The transmitter is programmable for RTD's in 3- and 4-wire connection according to different standards as well as for 11 T/C types. Useful error correction functions improve the accuracy.

- Robust terminals with test connections
- Only 18.5 mm / 0.72 inch high
- Accepts RTD in 3- and 4-wire connection and 11 T/C types
- Temperature linear output
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Configuration without external power
- Easy-to-use Windows configuration software
- NAMUR compliant
- Rugged design tested for 10 g vibrations
- USB communication

Specifications:

Input RTD	3-, 4-wire connection
Pt100 (α=0.00385) ¹⁾	-200 to +1000 °C / -328 to +1832 °F
Pt1000 (α=0.00385) ¹⁾	-200 to +200 °C / -328 to +392 °F
PtX $10 \le X \le 1000 \ (\alpha = 0.00385)^{1}$	Upper range depending on X-value
Pt100 (α =0.003902)	-200 to +1000 °C / -328 to +1832 °F
Pt100 (α =0.003916)	-200 to +1000 °C / -328 to +1832 °F
Ni100 ^{2]}	-60 to +250 °C / -76 to +482 °F
Ni1000 ^{2]}	-10 to +150 °C / +14 to +302 °F
Ni120 ^{3]}	-70 to +300 °C / -94 to +572 °F
Cu104	-200 to +260 °C / -328 to +500 °F
Input Thermocouples	
Types	B, C, E, J, K, L, N, R, S, T, U
Sensor failure	Upscale, downscale or off
Adjustments - Zero	Any value within range limits
Adjustments - Minimum spans	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
T/C	2 mV
Output	4-20 mA, temperature linear
Operating temperature	-40 to +85 °C / -40 to +185 °F
Galvanic isolation	No
Power supply	8 to 32 VDC
Typical accuracy	±0.15 % of temperature span
Connection head	DIN B or larger



Ordering information

MINIPAQ-HLP	70MQHLP002
PC Configuration Kit (USB conn.)	70CFGUS001
Configuration	70CAL00001

^{1]} IEC 60751, ^{2]} DIN 43760, ^{3]} Edison No.7, ^{4]} Edison No.15

IPAQ-H



IPAQ-HX

Universal Programmable 2-wire Transmitters



IPAQ-H/-HX are universal, isolated 2-wire transmitters for temperature and other measurement applications. They combine competitive pricing, functionality and simple configuration.

Useful error correction functions improve the accuracy.

- Fully universal, linearized and high-isolation
- Accepts RTD, T/C, mV and Ω
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Full access to all features while in operation
- NAMUR compliant
- Consistent sensor break function
- Simplified loop check-up with calibration output
- Low sensor isolation detection
- IPRO, easy-to-use Windows configuration software

Specifications: Input RTD 3-, 4-wire connection Pt100 (α =0.00385) -200 to +1000 °C / -328 to +1832 °F Pt1000 (α =0.00385) -200 to +200 °C / -328 to +392 °F PtX $10 \le X \le 1000 \ (\alpha = 0.00385)$ Upper range depending on X-value Pt100 (α =0.003902) -200 to +1000 °C / -328 to +1832 °F Pt100 (α =0.003916) -200 to +1000 °C / -328 to +1832 °F Ni1001, Ni1202 -60 to +250 °C / -76 to +482 °F Ni10001] -100 to +150 °C / -148 to +302 °F -200 to +260 °C / -328 to +500 °F Cu10^{3]} Input Potentiometer / resistance 3-, 4-wire connection, 0 to 2000 Ω Types B, C, E, J, K, L, N, R, S, T, U Input Thermocouples Input mV -10 to +500 mV Sensor failure / Low isolation User definable output Adjustments - Zero Any value within range limits Adjustments - Minimum spans 10 °C / 18 °F Pt100, Pt1000, Ni100, Ni1000 10 **Ω** Potentiometer T/C, mV 2 mV Output 4-20 / 20-4 mA, temperature linear -40 to +85 °C / -40 to +185 °F **Operating temperature Galvanic isolation** 1500 VAC, 1 min IPAQ-H 6.5 to 36 VDC Power supply 8 to 30 VDC IPAQ-HX Intrinsic safety IPAQ-HX ATEX: II 1 G Ex ia IIC T4-T6 IPAQ-HX FM: IS Class I, DIV 1, GP A-D IPAQ-HX CSA: Class I, Groups A-D Typical accuracy ±0.1 % of span **Connection head** DIN B or larger





Ordering information

IPAQ-H	70IPH00001
IPAQ-HX (ATEX)	70IPHX0001
IPAQ-HX (FM, CSA)	70IPHX1001
PC Configuration Kit	70CFG00092
Configuration	70CAL00001

^{1]} DIN 43760 ^{2]} Edison No. 7 ^{3]} Edison No. 15

IPAQ-HPLUS



High-precision Universal Programmable 2-wire Transmitter



IPAQ-HPLUS offers outstanding accuracy, stability and high isolation combined with short response time and extended functionality.

It is a universal 2-wire transmitter for high-demand temperature and process measurement applications.

Error corrections and sensor diagnostics improve the measurement accuracy and safety.

- Fully universal, linearized and highly isolated
- Accepts RTD, T/C, mV and Ω
- Extra high accuracy and stability
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- 40 point linearization any sensor can be matched
- Configuration without external power
- High speed update (300 ms)
- Selectable output limits
- Low sensor isolation detection
- Full access to all features while in operation
- NAMUR compliant
- Consistent sensor break function
- Simplified loop check-up with calibration output
- IPRO, easy-to-use Windows configuration software

Specifications:

Input RTD	3-, 4-wire connection
Pt100 (α =0.00385)	-200 to +1000 °C / -328 to +1832 °F
Pt1000 (α =0.00385)	-200 to +200 °C / -328 to +392 °F
PtX 10 ≤ X ≤ 1000 (α=0.00385)	Upper range depending on X-value
Pt100 (α =0.003902)	-200 to +1000 °C / -328 to +1832 °F
Pt100 (α =0.003916)	-200 to +1000 °C / -328 to +1832 °F
Ni100 ^{1]} , Ni120 ^{2]}	-60 to +250 °C / -76 to +482 °F
Ni1000 ¹⁾	-100 to +150 °C/-148 to +302 °F
Cu10 ³⁾	-200 to +260 °C/-328 to +500 °F
Input Potentiometer/resistance	3-, 4-wire connection, 0 to 2000 Ω
Input Thermocouples	Types B, C, E, J, K, L, N, R, S, T, U
Input mV	-10 to +500 mV
Sensor failure/Low isolation	User definable output
Adjustments - Zero	Any value within range limits
Adjustments - Minimum spans	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
Potentiometer	5 Ω
T/C, mV	2 mV
Output	4-20 / 20-4 mA, temperature linear
Operating temperature	-40 to +85 °C / -40 to +185 °F
Galvanic isolation	3750 VAC, 1 min
Power supply	6.5 to 36 VDC
Typical accuracy	±0.05 % of span
Connection head	DIN B or larger



IPAQ-H ^{PLUS}	70IPHP0001
PC Configuration Kit	70CFG00092
Configuration	70CAL00001

¹⁾ DIN 43760 ²⁾ Edison No. 7 ³⁾ Edison No. 15

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IPAQ C520

HART Compatible Universal **Dual-input** 2-wire Transmitters





The IPAQ C520 transmitters are universal, isolated, dual-input temperature transmitters with additional voltage and resistance input. The IPAQ C520N is approved for Non-Incendive use in Ex-Zone 2, C520X/C520XS are Intrinsically Safe versions for use in Ex-Zone 0. 1 and 2.

The transmitters are compatible with the HART 6 protocol.

Typical characteristics are the high accuracy, stability and reliability combined with a robust housing.

- Universal, dual-input for RTD and T/C
- SIL 2 compatible according to IEC 61508-2
- 5 year guaranted stability
- Withstands 10 g vibrations
- Complies with NAMUR NE 21, NE 43, NE 53, NE 89 and NE 107
- EMC immunity according to Criteria A
- Sensor Backup
- Sensor Drift Monitoring
- Sensor Isolation Monitoring
- Sensor matching
- 50 point customized linearization
- Integrated in Emerson AMS and Siemens PDM systems

Specifications:

Input RTD		
Pt100	(IEC 60751, α=0.00385)	-200 to +850 °C
PtX (10 ≤ X ≤ 1000)	(IEC 60751, α=0.00385)	Corresp. to max. 4 000 Ω
Pt100	(JIS C 1604, α=0.003916)	-200 to +850 °C
Ni100	(DIN 43760)	-60 to +250 °C
Ni120	(Edison Curve No. 7)	-60 to +250 °C
Ni1000	(DIN 43760)	-50 to +180 °C
Cu10	(Edison Cu Windings No. 15)	-50 to +200 °C
Input connections	One sensor	2-, 3- and 4-wire connection
	Two sensors	2- and 3-wire connection
Input Thermocouple	T/C types	B, C, D, E, J, K, N, R, S, T
Input Resistance	Potentiometer	100 to 4000 Ω , 2-, 3- and 4-wire connection
Input Voltage		-10 to +1000 mV
Double inputs for RTD and	Thermocouple	
Measure mode		T1 or T2 or difference, average, min, max of T1 and T2
Sensor Redundancy		Automatic switchover to undamaged sensor
Sensor Drift Monitoring		Adjustable maximum temp. difference T1-T2
Output		
Output signal	Temperature linear	4-20 mA, 20-4 mA or customized
NAMUR compliance	Measure and fail currents	NAMUR, NE 43
Galvanic isolation		1500 VAC, 1 min
Ex-classifications	C520N	ATEX: II 3 G Ex nL IIC T4-T6 Pending: FM, CSA, IECEx, GOST
	C520X/C520XS	ATEX: II 1 G Ex ia IIC T4-T6 Pending: FM, CSA, IECEx, GOST
Power supply	C520/C520N/C520S	10 to 36 VDC, Standard power supply
	C520X/C520XS	10 to 30 VDC, I.S. power supply
Ambient temperature	Storage/operation	-40 to +85 °C
Accuracy	RTD (Pt and Ni sensors)	Max. of ± 0.1 °C or ± 0.05 % of span
	Thermocouple	Typical ±0.05 % of span
	Resistance/voltage	See data sheet
Long-term stability		Max. drift: ±0.05 % of span / 5 years
Connection head		DIN B or larger





Ordering information

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port

C520	70C5200010
C520S, SIL 2 compatible	70C5200S10
C520N	70C520N010
C520X	70C520X010
C520XS, SIL 2 compatible	70C520XS10
ICON PC configuration kit (USB-conn.)	70CFGUS001
Configuration	70CAL00001
Head mounting kit	70ADA00027

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PROFIPAQ-H

Universal High-performance Profibus-PA Transmitters



PROFIPAQ-HX

Thanks to the digital output PROFIPAQ-H offers very accurate measurements as well as sensor and process information. With five input terminals new features such as two redundant Pt100 in 3-wire connection, are included. Configuration from a PC with Inor software, ProfiSoft, or over the Profibus network.

- Up to 125 transmitters in one Profibus network
- Profile version 3.0, Class A & B
- Fully universal, linearized and isolated
- \bullet Accepts RTD, T/C, mV and Ω
- Double Pt100, 3-wire, and T/C input
- Multiple outputs: Input value of Ch1 and Ch2, a scaled process value, redundancy with double sensor elements, aritmetic functions (difference, average, minimum and maximum)
- Easy wiring, large center hole
- Sensor matching corrects for sensor errors
- 50 point linearization any sensor can be matched
- Excellent sensor monitoring functions such as: sensor break, sensor short circuit, low sensor isolation and sensor aging
- Rugged design tested for 5 g vibrations
- Integrated in Siemens PDM system

Specifications:

Input RTD and Resistance		2-, 3- and 4-wire connection	
Pt10 ¹ , Pt50 ¹ , Pt100 ¹ , Pt200 ¹ , Pt500 ¹ , Pt1000 ¹		-200 to +850 °C / -328 to +1562 °F	
PtX $10 \le X \le 1000^{1], 4]$		-200 to +850 °C / -328 to +1562 °F	
Pt10 ²⁾ , Pt50 ²⁾ , Pt100 ²⁾		-200 to +850 °C / -328 to +1562 °F	
Ni50 ^{3]} , Ni100 ^{3]} , Ni120 ^{3]} , Ni1	0003)	-200 to +850 °C / -328 to +1562 °F	
Input Potentiometer / Res	sistance	0 to 4000 Ω	
Input Thermocouples		B, C, D, E, J, K, L, N, R, S, T, U	
Input Voltage		-10 to +1000 mV	
Double channels for redu	ndancy and arithmetic fu	Inctions	
Differential		Ch1 - Ch2 or Ch2 - Ch1	
Average value		0.5 x (Ch1 + Ch2)	
Average value with redund	lancy	0.5 x (Ch1 + Ch2), Ch1 or Ch2 if the	
		other one is broken	
Minimum value		Min (Ch1, Ch2)	
Maximum value		Max (Ch1, Ch2)	
Operating temperature		-40 to +85 °C / -40 to +185 °F	
Galvanic isolation		1500 VAC, 1 min	
Power supply	PROFIPAQ-H	9 to 32 VDC	
	PROFIPAQ-HX	9 to 17.5 VDC	
Ex-approval			
	PROFIPAQ-H	ATEX: II 3 G Ex nL IIC T4-T6 (FNICO)	
	PROFIPAQ-HX	ATEX: II 1 G Ex ia IIC T4-T6 (FISCO)	
Typical accuracy		Pt100: 0.10 °C / 0.18 °F ⁵⁾	
Connection head		DIN B or larger	



Double voltage mV

Output connections

Bus connection (polarity independent)



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Dimensions



Ordering information

PROFIPAQ-H	70PPH00001
PROFIPAQ-HX	70PPHX0001
PC Configuration kit	70CFG00092
Configuration	70CAL00001

 11 IEC 60751, α =0.00385 21 JIS 1604, α =0.003916 31 DIN 43760, α =0.006180 41 With Inor PC software ProfiSoft 51 For other inputs, see datasheet

INOR

MINIPAQ-L



Basic Programmable 2-wire Transmitter



MINIPAQ-L is a basic, programmable non-isolated, easy-to-use 2-wire transmitter. Configuration is made in seconds with the user friendly Windows software. No external power supply required for configuration.

MINIPAQ-L is programmable for RTD's in 3- and 4-wire connection according to different standards as well as for 11 T/C types.

Useful error correction functions improve the accuracy.

- Accepts RTD in 3- and 4-wire connection and 11 T/C types
- Temperature linear output
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Configuration without external power
- Easy-to-use Windows configuration software
- NAMUR compliant
- Test output without breaking the loop
- USB communication
- Withstands vibrations up to 10 g

Specifications:

Input RTD	3-, 4-wire connection
Pt100 (α=0.00385)	-200 to +1000 °C / -328 to +1832 °F
Pt1000 (α=0.00385)	-200 to +200 °C / -328 to +392 °F
PtX $10 \le X \le 1000 \ (\alpha = 0.00385)$	Upper range depending on X-value
Pt100 (α=0.003902)	-200 to +1000 °C / -328 to +1832 °F
Pt100 (α=0.003916)	-200 to +1000 °C / -328 to +1832 °F
Ni100 ^{2]}	-60 to +250 °C / -76 to +482 °F
Ni1000 ²⁾	-10 to +150 °C / +14 to +302 °F
Ni120 ^{3]}	-70 to +300 °C / -94 to +572 °F
Cu104)	-200 to +260 °C / -328 to +500 °F
Input Thermocouples	
Types	B, C, E, J, K, L, N, R, S, T, U
Sensor failure	Upscale, downscale or off
Adjustments - Zero	Any value within range limits
Adjustments - Minimum spans	
Pt100, Pt1000, Ni100, Ni1000	10 °C /18 °F
T/C	2 mV
Output 4-20 mA, temperature li	
Operating temperature	-20 to +70 °C / -4 to +158 °F
Galvanic isolation	No
Power supply 8 to 32 VDC	
Typical accuracy ±0.15 % of temperature s	
Mounting Rail acc. to DIN EN 50022,	



4 Thermocouple •

Output connections



Output load diagram



Dimensions



Ordering information

MINIPAQ-L	70MQL00003
PC Configuration Kit (USB conn.)	70CFGUS001
Configuration	70CAL00001

^{1]} IEC 60751, ^{2]} DIN 43760, ^{3]} Edison No.7, ^{4]} Edison No.15

IPAQ-L



Universal Programmable 2-wire Transmitters



IPAQ-L/-LX are universal, isolated 2-wire transmitters for temperature and other measurement applications. They combine competitive pricing, functionality and simple configuration.

Useful error correction functions improve the accuracy.

- Fully universal, linearized and isolated
- Accepts RTD, T/C, mV and Ω
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Full access to all features while in operation
- NAMUR compliant
- Consistent sensor break function
- Simplified loop check-up with calibration output
- Test output without breaking the loop (IPAQ-L)
- IPRO, easy-to-use Windows configuration software

Specifications:

Input RTD		3-, 4-wire connection	
Pt100 (α=0.00385)		-200 to +1000 °C / -328 to +1832 °F	
Pt1000 (α=0.00385)		-200 to +200 °C / -328 to +392 °F	
PtX $10 \le X \le 1000$ (α =0.00385)		Upper range depending on X-value	
Pt100 (α=0.003902)		-200 to +1000 °C / -328 to +1832 °F	
Pt100 (α=0.003916)		-200 to +1000 °C / -328 to +1832 °F	
Ni100 ¹⁾ , Ni120 ²⁾		-60 to +250 °C / -76 to +482 °F	
Ni1000 ¹⁾		-100 to +150 °C / -148 to +302 °F	
Cu10 ³		-200 to +260 °C / -328 to +500 °F	
Input Potentiometer/resistance		3-, 4-wire connection. 0 to 2000 Ω	
Input Thermocouples		Types B, C, E, J, K, L, N, R, S, T, U	
Input mV		-10 to +500 mV	
Sensor failure		User definable output	
Adjustments-Zero		Any value within range limits	
Adjustments-Minimum spans			
Pt100, Pt1000, Ni100, Ni1000		10 °C / 18 °F	
Potentiometer		10 Ω	
T/C, mV		2 mV	
Output		4-20 / 20-4 mA, temperature linear	
Operating temperature		-20 to +70 °C / -4 to +158 °F	
Galvanic isolation		1500 VAC, 1 min	
Power supply	IPAQ-L	7.5 to 36 VDC	
	IPAQ-LX	8 to 30 VDC	
Intrinsic safety (Mounting in safe area)			
IPAQ-LX ATEX:		II (1) G [Ex ia] IIC	
IPAQ-LX FM:		IS Class I-III, DIV 1, GP A-G	
IPAQ-LX CSA:		Class I, Groups A-D; Class II, Groups E-G;	
		Class III	
Typical accuracy		±0.1 % of span	
Mounting		Rail acc. to DIN EN50022, 35 mm	
¹⁾ DIN 43760 ²⁾ Edison No. 7 ³⁾ Edison No. 15			



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IPAQ-L	70IPL00001	
IPAQ-LX (ATEX)	70IPLX0001	
IPAQ-LX (FM, CSA)	70IPLX1001	
PC Configuration Kit	70CFG00092	
Configuration	70CAL00001	

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IPAQ-LPLUS



High-precision Universal Programmable 2-wire Transmitter



IPAQ-LPLUS offers outstanding accuracy, stability and high isolation combined with short response time and extended functionality.

It is a universal 2-wire transmitter for high-demand temperature and process measurement applications.

Error corrections and sensor diagnostics improve the measurement accuracy and safety.

- Fully universal, linearized and highly isolated
- Accepts RTD, T/C, mV and Ω
- Extra high accuracy and stability
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- 40 point linearization any sensor can be matched
- Configuration without external power
- High speed update (300 ms)
- Selectable output limits
- Low sensor isolation detection
- Full access to all features while in operation
- NAMUR compliant
- Simplified loop check-up with calibration output
- Test output without breaking the loop
- IPRO, easy-to-use Windows configuration software

Specifications:

Input RTD	3-, 4-wire connection
Pt100 (α=0.00385)	-200 to +1000 °C / -328 to +1832 °F
Pt1000 (α=0.00385)	-200 to +200 °C / -328 to +392 °F
PtX $10 \le X \le 1000 \ (\alpha = 0.00385)$	Upper range depending on X-value
Pt100 (α=0.003902)	-200 to +1000 °C / -328 to +1832 °F
Pt100 (α=0.003916)	-200 to +1000 °C / -328 to +1832 °F
Ni100 ¹ , Ni120 ²	-60 to +250 °C / -76 to +482 °F
Ni1000 ¹⁾	-100 to +150 °C / -148 to +302 °F
Cu10 ³	-200 to +260 °C / -328 to +500 °F
Input Potentiometer / resistance	3-, 4-wire connection 0 to 2000 Ω
Input Thermocouples	Types B, C, E, J, K, L, N, R, S, T, U
Input mV	-10 to +500 mV
Sensor failure / Low isolation	User definable output
Adjustments - Zero	Any value within range limits
Adjustments - Minimum spans	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
Potentiometer	5 Ω
T/C, mV	2 mV
Output	4-20/20-4 mA, temperature linear
Operating temperature	-20 to +70 °C / -4 to +158 °F
Galvanic isolation	3750 VAC, 1 min
Power supply	7.5 to 36 VDC
Typical accuracy	±0.05 % of span
Mounting	Rail acc. to DIN EN50022, 35 mm



IPAQ-L ^{PLUS}	70IPLP0001
PC Configuration Kit	70CFG00092
Configuration	70CAL00001

¹⁾ DIN 43760 ²⁾ Edison No. 7 ³⁾ Edison No. 15

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MESO-L

Universal HART-compatible 2-wire Transmitter

MESO-L is a smart and universal 2-wire transmitter for temperature and other measurement applications. MESO-L is fully HART-compatible, with communication through the HART protocol.

- Utilizes HART protocol for remote configuration and monitoring
- Communicates with HART Communicator or PC via modem
- Fully universal, linearized and isolated
- Accepts RTD, T/C, mV and ohm
- Sensor error correction
- 50 point linearization any sensor can be matched
- Consistent sensor break function
- Simplified loop check-up with calibration output
- Full access to all features while in operation
- Low sensor isolation detection
- MEPRO, easy-to-use Windows configuration software
- Integrated in Emerson AMS and Siemens PDM systems

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Input RTD and Resistance	3-,4-wire connection
Pt100 ¹⁾ and D100 ²⁾	-200 to +1000 °C / -328 to +1832 °F
Pt10001)	-200 to +200 °C / -328 to +392 °F
$PtX \ 10 \le X \le 1000^{11}$	Upper range depending on X value
Ni100 ³	-60 to +250 °C / -76 to +482 °F
Ni1000 ³⁾	-60 to +150 °C /-76 to +302 °F
Potentiometer / resistance	0 to 2000 Ω
Input Thermocouples	B, C, E, J, K, L, N, R, S, T, U
Input Voltage	-10 to +500 mV
Sensor failure / Low isolation	User definable output
Adjustments - Zero	Any value within range limits
Adjustments - Minimum spans	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
Potentiometer	10 Ω
T/C, mV	2 mV
Output	4-20 / 20-4 mA
Operating temperature	-20 to +70 °C / -4 to +158 °F
Galvanic isolation	1500 VAC, 1 min
Power supply	11 to 42 VDC
Typical accuracy	±0.1% of temperature span
Mounting	Rail acc. to DIN EN50022, 35 mm



Ordering information

MESO-L	70MEL00001
HART PC modem RS232	70MEM00001
HART PC-modem USB	70MEM00003
Software CD	70CDSOFT01
Configuration	70CAL00001

^{1]} IEC 60751, α=0,00385 ^{2]} Pt100 acc. JIS 1604, α=0,003916 ^{3]} DIN 43760



PROFIPAQ-L

Universal High-performance Profibus-PA Transmitter



Thanks to the digital output PROFIPAQ-L offers very accurate measurements as well as sensor and process information. With five input terminals new features such as two redundant Pt100 in 3-wire connection, are included. Configuration from a PC with Inor software, ProfiSoft, or over the Profibus network.

- Up to 125 transmitters in one Profibus network
- Profile version 3.0, Class A & B
- Fully universal, linearized and isolated
- Accepts RTD, T/C, mV and Ω
- Double Pt100, 3-wire, and T/C input
- Multiple outputs: Input value of Ch1 and Ch2, a scaled process value, redundancy with double sensor elements, aritmetic functions (difference, average, minimum and maximum)
- Easy wiring, plug-in screw terminals
- Sensor matching corrects for sensor errors
- 50 point linearization any sensor can be matched
- Excellent sensor monitoring functions such as: sensor break, sensor short circuit, low sensor isolation and sensor aging
- Up to 8 Masters Class 2
- Integrated in Siemens PDM system

Specifications:

Input RTD and Resistance	2-, 3- and 4-wire connection	
Pt101, Pt501, Pt1001, Pt2001, Pt5001, Pt10001	-200 to +850 °C / -328 to +1562 °F	
$PtX \ 10 \le X \le 1000^{11, 4}$	-200 to +850 °C / -328 to +1562 °F	
Pt10 ² , Pt50 ² , Pt100 ²	-200 to +850 °C / -328 to +1562 °F	
Ni50 ^{3]} , Ni100 ^{3]} , Ni120 ^{3]} , Ni1000 ^{3]}	-200 to +850 °C /-328 to +1562 °F	
Input Potentiometer / Resistance	0 to 4000 Ω	
Input Thermocouples	B, C, D, E, J, K, L, N, R, S, T, U	
Input Voltage	-10 to +1000 mV	
Double channels for redundancy and arithmetic functions		
Differential	Ch1 - Ch2 or Ch2 - Ch1	
Average value	0.5 x (Ch1 + Ch2)	
Average value with redundancy	0.5 x (Ch1 + Ch2), Ch1 or Ch2 if the	
	other one is broken	
Minimum value	Min (Ch1, Ch2)	
Maximum value	Max (Ch1, Ch2)	
Operating temperature	-20 to +70 °C / -4 to +158 °F	
Galvanic isolation	1500 VAC, 1 min	
Power supply	9 to 32 VDC	
Typical accuracy	Pt100: 0.10 °C / 0.18 °F ⁵⁾	
Mounting	Rail acc. to DIN EN50022, 35 mm	





Ordering information

PROFIPAQ-L	70PPL00001
PC Configuration kit	70CFG00092
Configuration	70CAL00001

SR335



Alarm Unit with Pt100 Input and Double Relay Outputs

 $\mathsf{SR335}$ is designed for industrial temperature monitoring with Pt100 sensors in 2- or 3-wire connection.

Two output relays with individually adjustable trip functions are available. LED's in the front indicate alarm state and correct power supply.

- Input from Pt100 sensors in 2- or 3-wire connection
- Selectable, pre-calibrated temperature ranges
- Two relay outputs with independent switch functions
- Monostable relays for safe tripping at power failure
- SPDT relays with 6 A switch capacity
- High configuration flexibility with DIP switches
- Trip levels and hysteresis adjustable from the front
- Three front LED's for trip indication and power supply monitoring
- 4 kV isolation between input, output and power supply
- Protective Separation acc. to EN 50178
- Universal 24 V AC and DC power supply
- DIN-rail mounting

Specifications:

Input	
Sensor	Pt100, Pt200, Pt500 and Pt1000 (switch selectable)
Standard	ΙΕС 60751, α =0.00385
Measuring range	Zero: -100 / -50 / 0 / +50 °C (switch selectable)
	Span: 100 / 200 / 300 / 400 °C (switch selectable)
Sensor connection	2-wire and 3-wire (switch selectable)
Sensor wire resistance	≤10 Ω per wire
Output, Relay 1 & 2	
Relay contacts	1-pole switch over contact (SPDT)
Contact rating	250 VAC/DC, 6 A, 1 500 VA
Relay function	Monostable, Normally active or passive (switch selectable)
Alarm functions, relay 1	High/Low alarm (switch selectable)
Alarm functions, relay 2	High/Low alarm or Power failure alarm (switch selectable)
Alarm indication	Alarm state indicated by yellow LED
Adjustable alarm set-point	0 to 100 % of input range (12-turn potentiometers in front)
Adjustable hysteresis	0 to 60 % of span (12-turn potentiometers in front)
Response time	Ca. 20 ms (fixed)
Operation temperature	-20 to +60 °C / -4 to +140 °F
Galvanic isolation	
Input / power supply / relay outputs	4 kVAC, 1 min
Relay 1 / Relay 2	2.5 kVAC, 1 min
Power supply	
Voltage	24 VAC/DC ±15 %, 48 to 62 Hz (AC supply)
Power consumption	AC: ca. 2 VA, DC: ca. 1 W
Typical accuracy	Trip point: ±0.2 % of span
Mounting	Rail acc. to DIN EN 50022, 35 mm



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SR335, 24 VAC/DC	70SR335001
Configuration	70CAL00001

SR535



Alarm Unit with Pt100 Input and 4-20 mA Output

SR535 is designed for monitoring Pt100 signals in the process industry. The unit gives alarm functions for either increasing or decreasing temperatures and for certain error states.

SR535 provides a temperature linear output signal, 4-20 mA, corresponding to the measurement range.

- Direct Pt100 input
- 4-20 mA output
- One temperature monitoring relay
- One error monitoring relay
- Reliable and interference free safety alarm without false alarms
- High configuration flexibility with solder jumpers
- Adjustable time delay, hysteresis and relay functions
- Available for AC or DC power supply
- DIN-rail mounting
- Plug-in screw terminals

Specifications:

Input Pt100 (acc. to IEC 60751)	,3-wire connection	Range: 0-100, 0-150 ¹, 0-200, 0-300, 0-500 °C
Sensor current		3 mA
Output Relay 1	Temperature monitoring	1-pole switch over contact
Selectable High or Low alar	m	Jumpers on PCB (standard: High)
Adjustable alarm set-point		Front 15-turn potentiometer / test connector
Selectable alarm delay		0.4 s (standard) or 2 s, changeable on PCB
Selectable hysteresis		0.5 % (standard) or 5 %, changeable on PCB
Selectable normally active of	r passive function	Jumpers on PCB (standard: normally active)
Output Relay 2	Error monitoring	1-pole opening contact
Fixed, normally active and o	pening contact	Alarm at power failure, sensor break or high
		input (125 %)
Output Current		4-20 mA linear to selected temperature range
Operation temperature		-20 to +60 °C / -4 to +140 °F
Galvanic isolation	Input to relay outputs	3 700 VAC, 1 min
	Input to AC power supply	3 700 VAC, 1 min
	Input to DC power supply	1 500 VAC, 1 min
	Relay outputs to power	
	supply	3 700 VAC, 1 min
	Input to mA output	Not isolated
Power supply	AC versions	230 VAC, -15+10 %, 4575 Hz
		115 VAC, -15+10 %, 4575 Hz
	DC version	19 to 60 VDC
Typical accuracy	Trip point, mA output	± 0.1 % of span
Connections	Plug-in terminals	Stranded, ≤ 2.5 mm², AWG 14
Mounting		Rail acc. to DIN EN 50022, 35 mm



Ordering information

SR535, 0-150 °C, 230 VAC	51M0E00012
SR535, 0-150 °C, 115 VAC	51M0E00085
SR535, 0-150 °C, 19-60 VDC	51M0E00013
Configuration for other range	70CAL00003

¹⁾factory set



ME544

4-channel Power Supply for 2-wire Transmitters



ME544 has four galvanically isolated supply channels for 2-wire transmitters. The output voltage for each channel is 25 VDC.

Each channel is short-circuit protected and has a current limitation to protect measurement circuits from damage caused by short circuits or other faults. ME544 cuts the risk for measurement errors caused by earth potential differences with a number of 2-wire transmitters in the same measurement system.

- 4 galvanically isolated supply channels for 2-wire transmitters
- 25 V stabilized supply voltage
- Short-circuit safe
- Current limited to ~35 mA
- Available for AC or DC power supply
- Compact mounting on DIN rail
- Plug-in screw terminals

Transmitter supply 1 2 1 2 2-wire transmitter 1 2 1 1 2 1 1 2 2-wire transmitter 1 1 2 2-wire transmitter 1 1 2 2-wire transmitter 1 1 2 2-wire transmitter

Power supply



Specifications:

Supply channel 1 to 4		
Voltage		~25 VDC stabilized, short circuit protected
Current limitation		~35 mA
Maximum ripple		5 mV eff.
Operation temperature		-20 to +60 °C/-4 to +140 °F
Galvanic isolation	Between channel 1-4	1500 VAC, 1 min
	AC power supply to channel 1-4	2500 VAC, 1 min
	DC power supply to channel 1-4	1500 VAC, 1 min
Power supply	AC versions	230 VAC, -15+10 %, 4575 Hz
		115 VAC, -15+10 %, 4575 Hz
	DC version	19 to 60 VDC
Connections	Plug-in terminals	Stranded, ≤ 2.5 mm², AWG 14
Mounting		Rail acc. to DIN EN 50022, 35 mm

Dimensions



Ordering information

ME544, 230 VAC	51M0E00010
ME544, 115 VAC	51M0E00112
ME544, 19-60 VDC	51M0E00011





Loop Powered Heavy-duty LCD Field Indicator

LCD-H30 is a digital, heavy-duty LCD indicator for installation directly in a 4-20 mA loop without need for external power.

The indicator is equipped with high-contrast, easy-to-read LCD digits with backlight. The scale is easily programmable, without reference signal, by two push buttons for any values between - 1999 and 9999.

- Can be used with any DIN B transmitter or as display only
- Installation directly in a 4-20 mA loop without need for power supply
- 5 V voltage drop
- High-contrast, 4-digit LCD display with LED backlight
- Simple push button scaling without reference signal
- Any range between -1999 to 9999 for 4 to 20 mA input
- Labels for different engineering units are included
- Typical accuracy of 0.05 % allows for high precision read-outs
- HART transparent
- Choice of transmitter can be integrated as added option
- Designed for ambient temperatures between -20 to +70 °C / -4 to +158 °F
- Field mounting in rugged IP 68 housing
- 90° indexing of display orientation

Specifications:

Input Current	4-20 mA
Maximum current	30 mA
Minimum current for operation	~3.5 mA
Voltage drop	~5 V
Indication	
Display	LCD with 4 digits including minus sign
Digit height	8.89 mm / 0.35 "
Indication range	Any range between -1999 to 9999
Decimals	Selectable, 0 to 3
Under range / Over range	Flashing symbols LO/HI
Engineering units	Set of labels included (including blanks)
Response time	Appr. 0.5 s
Scale setting	2 pushbuttons inside the housing
Operation temperature	-20 to +70 °C /-4 to +158 °F
Typical accuracy	±0.05 % FS ±1 digit
Protection	Up to IP68
Connections	Stranded, ≤ 2.5 mm
Mounting	Wall mount or 2" pipe clamp
Enclosure	
Material	Pressure Die Cast Aluminium; Silicone Rubber gasket
Paint	Spray Epoxy Primer with Polyurethane Top Coat.
	Color: RAL 5005 Signal Blue
Conduit Connections	Threaded ports M20x1.5, 1/2 NPT, 3/4 NPT



Ordering information

LCD-H30	On request	
Configuration	On request	
Mounting of transmitter	On request	
2" Pipe clamp	On request	
For indicator only (without housing), contact Inor		