

PROGRAMMABLE CONVERTERS

201.04en



INOR CONVERTERS

APAQ-H ANALOGUE PROGRAMMABLE CONVERTER

| | |
|-------------------------------------|--|
| Use | APAQ-H is a series of multi-range two-wire temperature converters for thermometer heads |
| Input | Pt100 (-HRF, -HRFX), thermocouple J, L, T, K, N (-HCF, -HCFX) |
| Output | 4 to 20 mA |
| Measuring range | Adjustable; -HRF, -HRFX: 50/100/150/200/300/400/500 °C -HCF, -HCFX: 10 to 50 mV continuously |
| Accuracy | -HRF, -HRFX: $\pm 0.15\%$ of the temperature range -HCF, -HCFX: $\pm 0.5\%$ to $\pm 1.0\%$ of the temperature range |
| Maximum operating temperature range | -40 to 85 °C |
| Power supply (U) | 6.5 to 32 VDC (-HRF, -HCF), 8.5 to 30 VDC (-HRFX, -HCFX) |

-HRFX, -HCFX: designed for explosive environments



MINIPAQ-H BASIC PROGRAMMABLE CONVERTER

| | |
|-------------------------------------|--|
| Use | Basic, programmable, uninsulated, two-wire converter for thermometer heads |
| Input | Pt100, Pt1000, thermocouple B, E, J, L, T, K, N, R, S, U |
| Output | 4 to 20 mA |
| Measuring range | Programmable |
| Accuracy | $\pm 0.15\%$ |
| Maximum operating temperature range | -40 to 85 °C |
| Power supply (U) | 8 to 36 VDC |

-HX: designed for explosive environments



IPAQ-H UNIVERSAL PROGRAMMABLE CONVERTER

| | |
|-------------------------------------|---|
| Use | IPAQ-H/-HX are universal insulated, two-wire, programmable converters for thermometer heads |
| Input | Pt100, Pt1000, potentiometer, thermocouple B, E, J, L, T, K, N, R, S, U |
| Output | 4 to 20 mA |
| Measuring range | Programmable |
| Accuracy | $\pm 0.1\%$ of the temperature range |
| Maximum operating temperature range | -40 to 85 °C |
| Power supply (U) | 6.5 to 36 VDC (-H), 8.0 to 30 VDC (-HX) |

-HX: designed for explosive environments



UNIVERSAL

MESO-H UNIVERSAL HART

COMPATIBLE PROGRAMMABLE CONVERTER

| | |
|-------------------------------------|---|
| Use | MESO-H/-HX are intelligent, universal, fully linearized and insulated two-wire converters for thermometer heads |
| Input | Pt100, Pt1000, thermocouple B, E, J, L, T, K, N, R, S, U |
| Output | 4 to 20 mA |
| Measuring range | Programmable |
| Accuracy | $\pm 0.1\%$ of the temperature range |
| Maximum operating temperature range | -40 to 85 °C |
| Power supply (U) | MESO-H: 10 to 42 VDC, MESO-HX: 12 to 30 VDC |

MESO-HX: designed for explosive environments



HART

IPAQ-C520 UNIVERSAL PROGRAMMABLE CONVERTER

| | |
|-------------------------------------|--|
| Use | IPAQ-C520/-C520X are insulated programmable converters for heads with HART 6 protocol and double input |
| Input | Pt100, Pt1000, potentiometer, thermocouple B, C, D, J, K, L, N, R, S, T, U |
| Output HART | Measuring range Programmable |
| Accuracy | $\pm 0.05\%$ of the temperature range, max. $\pm 0.1\text{ }^\circ\text{C}$ |
| Maximum operating temperature range | -40 to $85\text{ }^\circ\text{C}$ |
| Power supply (U) | 10 to 36 V |

-C520X: designed for explosive environments

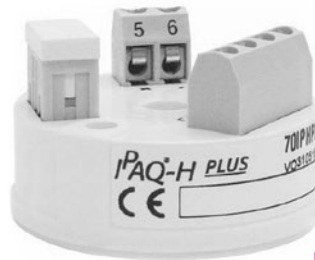


HART

IPAQ-HPLUS UNIVERSAL PROGRAMMABLE CONVERTER

| | |
|-------------------------------------|---|
| Use | IPAQ-HPLUS/HXPLUS are efficient insulated, two-wire programmable converters for thermometer heads |
| Input | Pt100, potentiometer, thermocouple B, E, J, L, T, K, N, R, S, U |
| Output | 4 to 20 mA |
| Measuring range | Programmable |
| Accuracy | $\pm 0.05\%$ of the temperature range |
| Maximum operating temperature range | -40 to $85\text{ }^\circ\text{C}$ |
| Power supply (U) | -HPLUS: 6.5 to 36 VDC, -HXPLUS: 8.0 to 30 VDC |

-HXPLUS: designed for explosive environments



EXTREMELY FAST AND ACCURATE

PROFIPAQ-H UNIVERSAL PROFIBUS-PA CONVERTER

| | |
|-------------------------------------|---|
| Use | PROFIPAQ-H/-HX are highly efficient and very resistant converters for thermometer heads |
| Input | Pt100, Pt1000, Ni100, Ni1000, potentiometer, thermocouple B, E, J, L, T, K, N, R, S, U |
| Output | Digital Profibus – up to 125 converters in one network |
| Measuring range | Programmable |
| Accuracy | Pt100: $\pm 0.1\text{ }^\circ\text{C}$ |
| Maximum operating temperature range | -40 to $85\text{ }^\circ\text{C}$ |
| Power supply (U) | PROFIPAQ-H: 9 to 32 VDC, PROFIPAQ-HX: 9 to 17.5 VDC |

PROFIPAQ-HX: designed for explosive environments



PROFIBUS

PROGRAMMABLE CONVERTERS FOR LINES RS485

DESCRIPTION

The PPL100 converter is designed for converting signals from a resistant temperature sensor within the range from -55 to 640 to a figure in ASCII format.

| | |
|-------------------------------------|--|
| Converter type | PPL100 |
| Input | PT 100/3850, PT 1000/3850, Ni 100/5000 and 6180, Ni 1000/5000 and 6180 (others as well upon agreement, e.g. NTC 20K) |
| Output RS485 | (-55...+640 $^\circ\text{C}$) |
| Linearization | Yes |
| Power supply (U) | 8 to 20 V |
| Accuracy | 0.2 $^\circ\text{C}$ |
| Maximum operating temperature range | -25 to $85\text{ }^\circ\text{C}$ |



INTELLIGENT PROGRAMMABLE CONVERTERS FOR HEADS

DESCRIPTION

PP and SH1 heads are programmable converters for heads and they are designed for converting industrial signals from resistant temperature sensors (SH1, SLM) or thermocouples into a unified industrial signal of 4 to 20 mA.



| Converter type | PP200 | PMA300 | PP300 |
|-------------------------------------|---|--|---|
| Input | PT 100/3850 PT 1000/3850 Ni 100/5000 and 6180, Ni 1000/5000 and 6180 | PT 100/3850 PT 1000/3850 Ni 100/5000 and 6180 Ni 1000/5000 and 6180 | PT 100/3850 PT 1000/3850 Ni 100/5000 and 6180 Ni 1000/5000 and 6180 Thermocouple J, L, K, T, S, B, E... |
| Input connection | 2 or 3-wire | 2-wire | |
| Output | | 4 to 20 mA, programmable range | |
| Measuring range | Random, min. 10 °C margin | Random, min. 10 °C margin | According to the thermocouple type |
| Linearization | Yes | Yes | Yes |
| Power supply (U) | 8 to 28 V on output loop | 8 to 28 V on output loop | 8 to 30 V on output loop |
| Accuracy | 0.15 % | 0.15 % | 0.15 % |
| Maximum operating temperature range | -25 to 80 °C | -25 to 80 °C | -25 to 80 °C |

*) Errors in percentage are related to the range.

UNIVERSAL PROGRAMMABLE CONVERTERS FOR DIN RAILS

DESCRIPTION

Programmable measuring converters are designed for converting industrial signals from resistant temperature sensors (PP210, PSTID, SUG2) or thermocouples (PSTID, SUG2) into a unified industrial signal of 4 to 20 mA.



| Converter type | PP210 | SUG2 |
|-------------------------------------|--|---|
| Input | PT 100/3850 PT 1000/3850 Ni 100/5000 and 6180 Ni 1000/5000 and 6180 | PT 100/3850 PT 1000/3850 Ni 100/ 6180 Ni 1000/ 6180 Thermocouple J, L, K, T, S, B, E... |
| Input connection | 2 or 3-wire | 2 or 3-wire |
| Output | 4 to 20 mA | 4 to 20 mA |
| Galvanically separated output | No | Yes |
| Measuring range | Random, min. 10 °C margin | Random, min. range in °C according to the sensor type |
| Linearization | Yes | Program-controlled |
| Power supply (U) | 8 to 28 V | 9 to 30 V |
| Maximum operating temperature range | -20 to 80 °C | -20 to 80 °C |

AC2Ni/SXX DOUBLE TEMPERATURE TO POWER CONVERTER

DESCRIPTION

The two-channel converter is designed for converting signals of resistance temperature sensors with Ni 1000/6180 ppm elements into the unified signal of 4–20 mA.



| | |
|--------------------|------------------------|
| Converter type | AC2Ni/Sxx |
| Input | Up to 2 x Ni 1000/6180 |
| Number of channels | 2 |
| Output | 4 to 20 mA |
| | S1 -30 to +60 °C |
| | SE* 0 to +35 °C |
| | S2 0 to +100 °C |
| | S3 0 to +150 °C |
| | SZ* 0 to +xxx °C |
| Power supply (U) | 12 to 35 VDC |
| Accuracy | 0.5 % |
| Size h x w x d | 100 x 23 x 75 mm |

PROGRAMMABLE CONVERTERS FOR CABLES

DESCRIPTION

The programmable converter is designed for converting industrial signals from resistance temperature sensors Pt 100/3850 into the unified signal of 4–20 mA. Its structure makes it suitable for connecting to cable sensors.



| | |
|-------------------------------------|---|
| Input | Pt 100/3850 |
| Input connection | 3-wire |
| Connector | M12 4-pin |
| Output | 4 to 20 mA |
| Measuring range | Programmable, max. -50 to 800 °C, min. 50 °C margin |
| Power supply (U) | 8.5 to 32 V |
| Accuracy | 0.2 % |
| Size | Diameter 14 mm, length 55 mm |
| Maximum operating temperature range | -40 to 80 °C (for plastic body) |