



4-20 mA & HART[®] output
Temperature Transmitter

United Electric Controls is
ISO 9001:2015 certified



AST-TEMP-TRANSMITTER 01

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4-20 MA OUTPUT, ISOLATED

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

TRANSMITTER TYPE	INPUT	RANGE	UNITS OF MEASURE	OPTION

TRANSMITTER TYPE

UNI5-S – Isolated transmitter with single 4-20mA output for terminal head mounting; Programming via Near Field Communication (NFC[®]) or Bluetooth*

INPUT

J – J type thermocouple	R – R type thermocouple
K – K type thermocouple	S – S type thermocouple
E – E type thermocouple	B – B type thermocouple
T – T type thermocouple	Ni100 – 100-ohm nickel RTD
Pt100 – 100-ohm platinum RTD	Ni500 – 500-ohm nickel RTD
Pt250 – 250-ohm platinum RTD	Ni1000 – 1000-ohm nickel RTD
Pt500 – 500-ohm platinum RTD	Cu10 – 10-ohm copper RTD
Pt1000 – 1000-ohm platinum RTD	Cu100 – 100-ohm copper RTD

RANGE (specify minimum and maximum values, e.g., 0-100) (See Table 1)

– **Minimum Range Value** (temperature value that equals 4 mA)

– **Maximum Range Value** (temperature value that equals 20 mA)

UNITS OF MEASURE

Specify °F or °C

OPTION

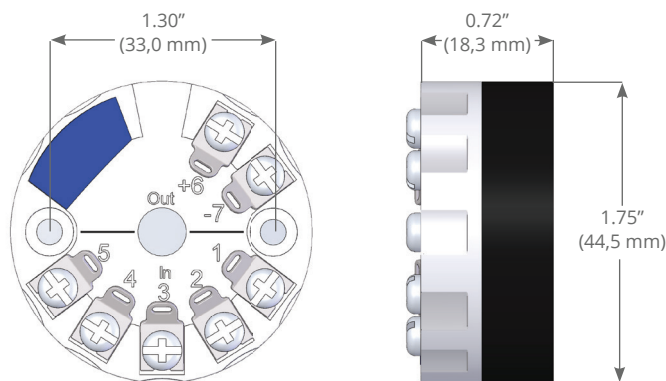
DS01 – Downscale open circuit detection

SPECIFICATIONS

Isolation (I/O):	1500 VAC galvanic
Supply Voltage:	8-36 VDC, polarity protected
Output:	4-20 mA or 20-4 mA
Accuracy:	0.08% of Span
Stability:	0.01 °C/°C per yr
Ambient Temperature:	-40 to + 85 °C
Housing:	PC/ABS
Open Circuit Detection:	Upscale standard

Note: when used as an option in combination with a temperature sensor assembly, use option code **TR11** at end of assembly part #.

* The UNI5-S utilizes Inor's Connect app to communicate via either integral NFC[®] or an optional Bluetooth modem (sold separately). For details, including a Quick-Start guide, visit <https://inor.com/product/ipaq-c330/>



UNI5-S

Available sensor ranges and limitations

SENSOR TYPE	MIN. TEMP.	MAX. TEMP.	MIN. SPAN
J T/C	-200 °C	1200 °C	50 °C
K T/C	-270 °C	1370 °C	50 °C
E T/C	-270 °C	1000 °C	50 °C
T T/C	-270 °C	400 °C	50 °C
R or S T/C	-60 °C	1760 °C	250 °C
B T/C	0 °C	1820 °C	600 °C
Pt100, Pt250, Pt500, and Pt1000 RTD	-200 °C	850 °C	25 °C
Ni100, Ni500 and Ni1000 RTD	-60 °C	250 °C	25 °C
Cu10 and Cu100 RTD	-200 °C	250 °C	25 °C

Table 1

4-20 MA/HART® OUTPUT, ISOLATED

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

TRANSMITTER TYPE	INPUT	RANGE	UNITS OF MEASURE	OPTION

TRANSMITTER TYPE

UNI5-H – Isolated transmitter with single 4-20mA/HART® output for terminal head mounting; Programming via Near Field Communication (NFC®) or Bluetooth*

INPUT

J – J type thermocouple	R – R type thermocouple
K – K type thermocouple	S – S type thermocouple
E – E type thermocouple	B – B type thermocouple
T – T type thermocouple	Ni100 – 100-ohm nickel RTD
Pt100 – 100-ohm platinum RTD	Ni500 – 500-ohm nickel RTD
Pt250 – 250-ohm platinum RTD	Ni1000 – 1000-ohm nickel RTD
Pt500 – 500-ohm platinum RTD	Cu10 – 10-ohm copper RTD
Pt1000 – 1000-ohm platinum RTD	Cu100 – 100-ohm copper RTD

RANGE (specify minimum and maximum values, e.g., 0-100) (See Table 1)

– **Minimum Range Value** (temperature value that equals 4 mA)
– **Maximum Range Value** (temperature value that equals 20 mA)

UNITS OF MEASURE

Specify °F or °C

OPTION

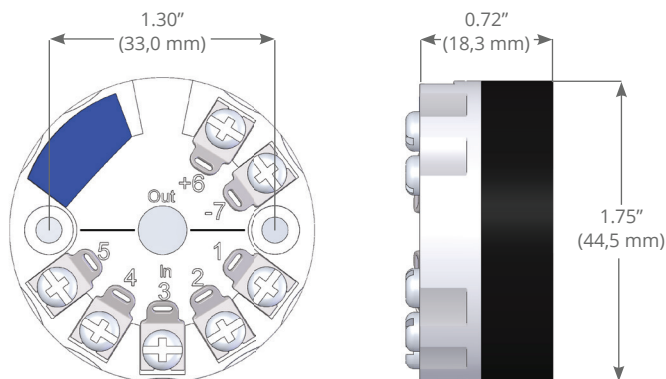
DS01 – Downscale open circuit detection

SPECIFICATIONS

Input:	Thermocouple or 3-wire/4-wire RTD
Isolation (I/O):	1500 VAC
Supply Voltage:	8.5-36 VDC, polarity protected
Output:	4-20mA or 20-4 mA
Digital Output:	HART® protocol
Accuracy:	0.08 % of span (typical)
Stability:	+/-0.02% of span/yr max
Ambient Temperature:	-40 to + 85 °C
Start-Up Time Warm-Up Time	5 sec. 5 min.
Housing:	PC/ABS
Open Circuit Detection:	Upscale standard

Note: when used as an option in combination with a temperature sensor assembly, use option code **TR13** at end of assembly part #.

* The UNI5-H utilizes Inor's Connect app to communicate via either integral NFC® or an optional Bluetooth modem (sold separately). For details, including a Quick-Start guide, visit <https://inor.com/product/ipaq-c330/>



UNI5-H

Available sensor ranges and limitations

SENSOR TYPE	MIN. TEMP.	MAX. TEMP.	MIN. SPAN
J T/C	-200 °C	1200 °C	50 °C
K T/C	-270 °C	1370 °C	50 °C
E T/C	-270 °C	1000 °C	50 °C
T T/C	-270 °C	400 °C	50 °C
R or S T/C	-60 °C	1760 °C	250 °C
B T/C	0 °C	1820 °C	600 °C
Pt100, Pt250, Pt500 and Pt1000 RTD	-200 °C	850 °C	25 °C
Ni100, Ni, 500 and Ni1000 RTD	-60 °C	250 °C	25 °C
Cu10 and Cu100 RTD	-200 °C	250 °C	25 °C

Table 1

4-20 MA OUTPUT, NON-ISOLATED

How to build a part number:

Select the requirements for the categories listed below and fill in the corresponding boxes with your selection. Consult UE-AST for custom solutions.

TRANSMITTER TYPE	INPUT	RANGE	UNITS OF MEASURE	OPTION
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TRANSMITTER TYPE

TC2 – Non-isolated transmitter with thermocouple input and single 4-20 mA output for terminal head mounting

RTD2 – Non-isolated transmitter with RTD input and single 4-20 mA output for terminal head mounting

INPUT

J – J type thermocouple
K – K type thermocouple
E – E type thermocouple
T – T type thermocouple

Pt100 – 100-ohm platinum RTD
Pt500 – 500-ohm platinum RTD
Pt1000 – 1000-ohm platinum RTD

R – R type thermocouple
S – S type thermocouple
B – B type thermocouple
Ni100 – 100-ohm nickel RTD
Ni1000 – 1000-ohm nickel RTD
Cu10 – 10-ohm copper RTD
Ni120 – 120-ohm nickel RTD

RANGE (specify minimum and maximum values, e.g., 0-100) (See Table 1)

– **Minimum Range Value** (temperature value that equals 4 mA)
– **Maximum Range Value** (temperature value that equals 20 mA)

UNITS OF MEASURE

Specify °F or °C

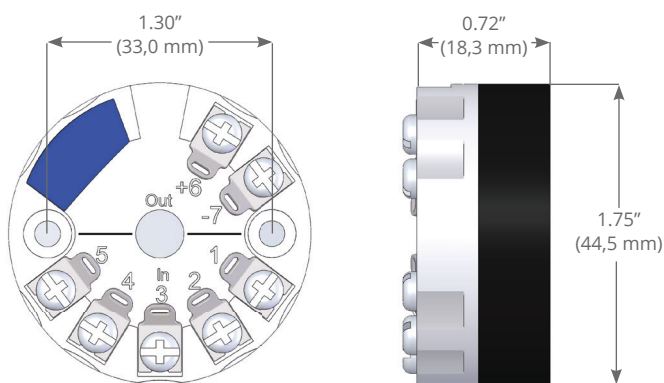
OPTION

DS01 – Downscale open circuit and short circuit detection

SPECIFICATIONS

Input:	Thermocouple or 3-wire/4-wire RTD
Supply Voltage:	8-32 VDC, polarity protected
Maximum Load:	$R_{max} = (V_{supply} - 8V) / 0.022$
Linearity:	RTD $\pm 0.1\%$ of span TC $\pm 0.2\%$ of span
Stability:	0.01 °C/°C
Output:	4-20 mA temperature linearized
Ambient Temperature:	-40 to + 85 °C
Housing:	PC/ABS
Open Circuit Detection:	Upscale standard

Note: when used as an option in combination with a temperature sensor assembly, use option code **TR12** at end of assembly part #.



RTD2 AND TC2

Available sensor ranges and limitations

SENSOR TYPE	MIN. TEMP.	MAX. TEMP.	MIN. SPAN
J T/C	-200 °C	1000 °C	2 mV
K T/C	-200 °C	1350 °C	2 mV
E T/C	-200 °C	1000 °C	2 mV
T T/C	-200 °C	400 °C	2 mV
R or S T/C	-50 °C	1750 °C	2 mV
B T/C	0 °C	1800 °C	2 mV
Pt100 RTD	-200 °C	1000 °C	10 °C
Pt1000 RTD	-200 °C	200 °C	10 °C
Ni100 RTD	-60 °C	250 °C	10 °C
Ni120 RTD	-70 °C	300 °C	10 °C
Ni1000 RTD	-100 °C	150 °C	10 °C
Cu10 RTD	-200 °C	260 °C	100 °C

Table 1

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