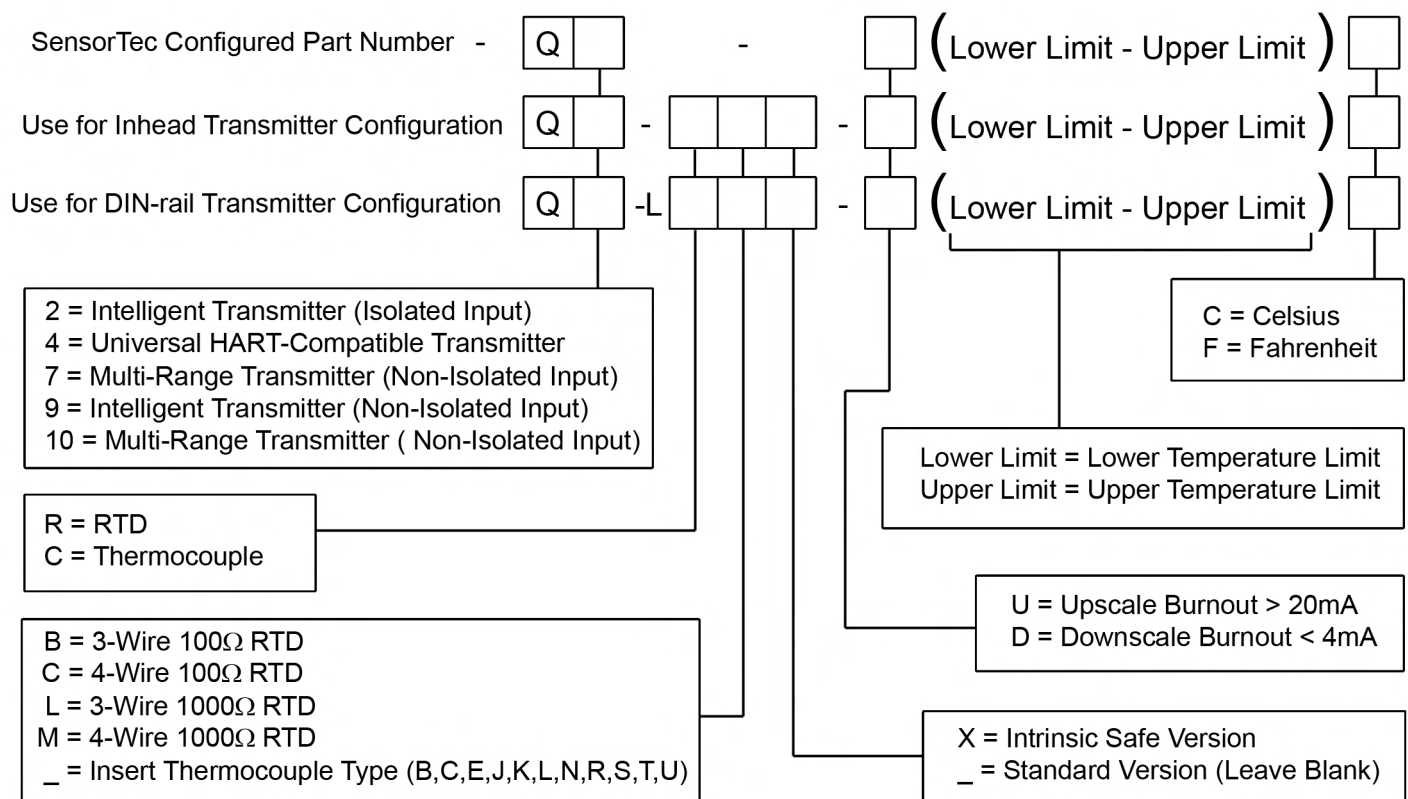


## Temperature Transmitters & Instruments Index

	PAGE
Q2 Intelligent Transmitter (Isolated Input) .....	X2
Q4 Universal HART-Compatible Transmitter (Isolated Input) .....	X4
Q7 Multi-Range Transmitter (Non-Isolated Input).....	X6
Q9 Intelligent Transmitter (Non-Isolated Input) .....	X8
Q10 Multi-Range Transmitter (Non-Isolated Input) .....	X10

## General Information

### Temperature Transmitters & Instruments Section



# Q2 / Q2-X



## Universal Programmable 2-wire Transmitters



Q2 / Q2-X 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.

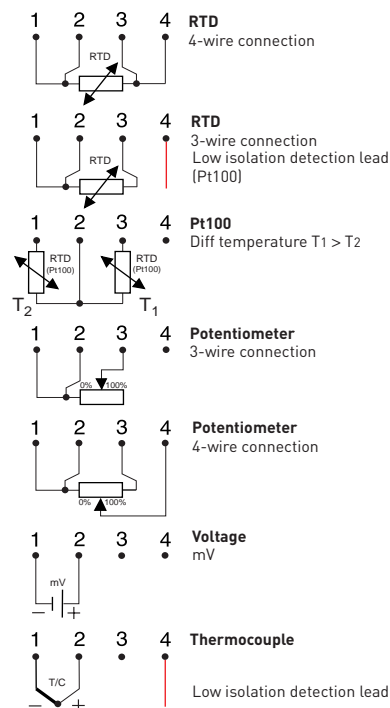
- Fully universal, linearized and high-isolation
- Accepts RTD, T/C, mV and  $\Omega$
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Full access to all features while in operation
- NAMUR compliant
- Consistent sensor break function
- Simplified loop check-up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

### Specifications:

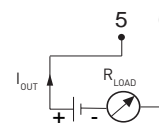
<b>Input RTD</b>		3-, 4-wire connection
Pt100 ( $\alpha=0.00385$ )		-200 to +1000 °C / -328 to +1832 °F
Pt1000 ( $\alpha=0.00385$ )		-200 to +200 °C / -328 to +392 °F
PtX $10 \leq X \leq 1000$ ( $\alpha=0.00385$ )		Upper range depending on X-value
Pt100 ( $\alpha=0.003902$ )		-200 to +1000 °C / -328 to +1832 °F
Pt100 ( $\alpha=0.003916$ )		-200 to +1000 °C / -328 to +1832 °F
Ni100 <sup>1)</sup> , Ni120 <sup>2)</sup>		-60 to +250 °C / -76 to +482 °F
Ni1000 <sup>1)</sup>		-100 to +150 °C / -148 to +302 °F
Cu10 <sup>3)</sup>		-200 to +260 °C / -328 to +500 °F
<b>Input Potentiometer / resistance</b>		3-, 4-wire connection, 0 to 2000 $\Omega$
<b>Input Thermocouples</b>		Types B, C, E, J, K, L, N, R, S, T, U
<b>Input mV</b>		-10 to +500 mV
<b>Sensor failure / Low isolation</b>		User definable output
<b>Adjustments - Zero</b>		Any value within range limits
<b>Adjustments - Minimum spans</b>		
Pt100, Pt1000, Ni100, Ni1000		10 °C / 18 °F
Potentiometer		10 $\Omega$
T/C, mV		2 mV
<b>Output</b>		4-20 / 20-4 mA, temperature linear
<b>Operating temperature</b>		-40 to +85 °C / -40 to +185 °F
<b>Galvanic isolation</b>		1500 VAC, 1 min
<b>Power supply</b>	Q2	6.5 to 36 VDC
	Q2-X	8 to 30 VDC
<b>Intrinsic safety</b>		
Q2-X ATEX:		II 1 G EEx ia IIC T4-T6
Q2-X FM:		IS Class I, DIV 1, GP A-D
Q2-X CSA:		Class I, Groups A-D
<b>Typical accuracy</b>		$\pm 0.1$ % of span
<b>Connection head</b>		DIN B or larger

<sup>1)</sup> DIN 43760 <sup>2)</sup> Edison No. 7 <sup>3)</sup> Edison No. 15

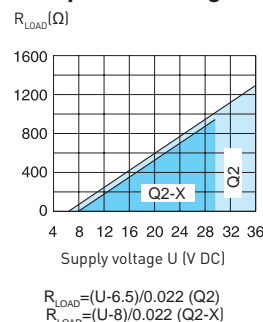
### Input connections



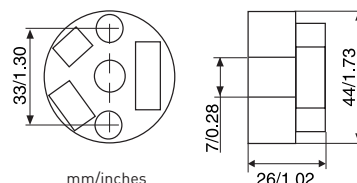
### Output connections



### Output load diagram



### Dimensions



# Q2-L/Q2-LX



## Universal Programmable 2-wire Transmitters



Q2-L/Q2-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.

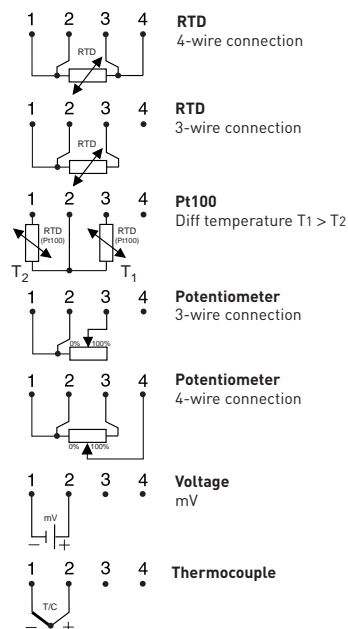
- Fully universal, linearized and isolated
- Accepts RTD, T/C, mV and  $\Omega$
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Full access to all features while in operation
- NAMUR compliant
- Consistent sensor break function
- Simplified loop check-up with calibration output
- Test output without breaking the loop (Q2-L)

### Specifications:

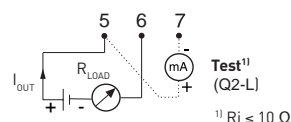
<b>Input RTD</b>	3-, 4-wire connection
Pt100 ( $\alpha=0.00385$ )	-200 to +1000 °C / -328 to +1832 °F
Pt1000 ( $\alpha=0.00385$ )	-200 to +200 °C / -328 to +392 °F
PtX $10 \leq X \leq 1000$ ( $\alpha=0.00385$ )	Upper range depending on X-value
Pt100 ( $\alpha=0.003902$ )	-200 to +1000 °C / -328 to +1832 °F
Pt100 ( $\alpha=0.003916$ )	-200 to +1000 °C / -328 to +1832 °F
Ni100 <sup>1)</sup> , Ni120 <sup>2)</sup>	-60 to +250 °C / -76 to +482 °F
Ni1000 <sup>1)</sup>	-100 to +150 °C / -148 to +302 °F
Cu10 <sup>3)</sup>	-200 to +260 °C / -328 to +500 °F
<b>Input Potentiometer/resistance</b>	3-, 4-wire connection. 0 to 2000 $\Omega$
<b>Input Thermocouples</b>	Types B, C, E, J, K, L, N, R, S, T, U
<b>Input mV</b>	-10 to +500 mV
<b>Sensor failure</b>	User definable output
<b>Adjustments-Zero</b>	Any value within range limits
<b>Adjustments-Minimum spans</b>	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
Potentiometer	10 $\Omega$
T/C, mV	2 mV
<b>Output</b>	4-20 / 20-4 mA, temperature linear
<b>Operating temperature</b>	-20 to +70 °C / -4 to +158 °F
<b>Galvanic isolation</b>	1500 VAC, 1 min
<b>Power supply</b>	Q2-L: 7.5 to 36 VDC Q2-LX: 8 to 30 VDC
<b>Intrinsic safety</b> (Mounting in safe area)	
Q2-LX ATEX:	II (1) G [Ex ia] IIC
Q2-LX FM:	IS Class I-III, DIV 1, GP A-G
Q2-LX CSA:	Class I, Groups A-D; Class II, Groups E-G; Class III
<b>Typical accuracy</b>	$\pm 0.1$ % of span
<b>Mounting</b>	Rail acc. to DIN EN50022, 35 mm

<sup>1)</sup> DIN 43760 <sup>2)</sup> Edison No. 7 <sup>3)</sup> Edison No. 15

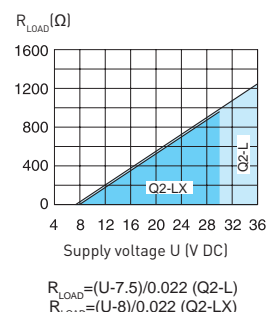
### Input connections



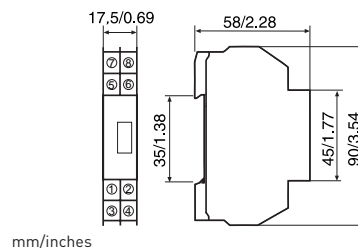
### Output connections



### Output load diagram



### Dimensions



# Q4/Q4-X

## Universal HART-compatible 2-wire Transmitters



Q4/Q4-X are smart and universal 2-wire in-head transmitters for temperature and other measurement applications. Q4/Q4-X are fully HART-compatible, with communication through the HART protocol.

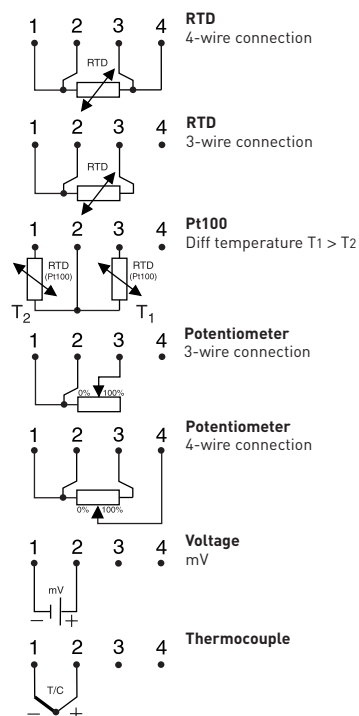
- Utilizes HART Protocol for remote configuration and monitoring
- Communicates with HART Communicator or PC via modem
- Fully universal, linearized and isolated
- Accepts RTD, T/C, mV and  $\Omega$
- Sensor error correction
- Easy wiring, large center hole
- 50 point linearization – any sensor can be matched
- Consistent sensor break function
- Full access to all features while in operation
- Low sensor isolation detection
- Integrated in Emerson AMS and Siemens PDM systems

### Specifications:

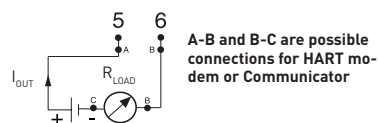
<b>Input RTD and Resistance</b>		3-,4-wire connection
Pt100 <sup>1)</sup> and D100 <sup>2)</sup>		-200 to +1000 °C / -328 to +1832 °F
Pt1000 <sup>1)</sup>		-200 to +200 °C / -328 to +392 °F
PtX $10 \leq X \leq 1000$ <sup>1)</sup>		Upper range depending on X value
Ni100 <sup>3)</sup>		-60 to +250 °C / -76 to +482 °F
Ni1000 <sup>3)</sup>		-60 to +150 °C / -76 to +302 °F
Potentiometer / resistance		0 to 2000 $\Omega$
<b>Input Thermocouples</b>		B, C, E, J, K, L, N, R, S, T, U
<b>Input Voltage</b>		-10 to +500 mV
<b>Sensor failure / Low isolation</b>		User definable output
<b>Adjustments - Zero</b>		Any value within range limits
<b>Adjustments - Minimum spans</b>		
Pt100, Pt1000, Ni100, Ni1000		10 °C / 18 °F
Potentiometer		10 $\Omega$
T/C, mV		2 mV
<b>Output</b>		4-20 / 20-4 mA
<b>Operating temperature</b>		-40 to +85 °C / -40 to +185 °F
<b>Galvanic isolation</b>		1500 VAC, 1 min
<b>Power supply</b>	Q4	10 to 42 VDC
	Q4-X	12 to 30 VDC
<b>Intrinsic safety</b>		
Q4-X ATEX:		II 1 G EEx ia IIC T4-T6
Q4-X FM:		IS Class I-III, DIV 1, GP A-D, G
Q4-X CSA:		Class I, Groups A-D; Class II, Group G; Class III
<b>Typical accuracy</b>		$\pm 0.1\%$ of temperature span
<b>Connection head</b>		DIN B or larger

<sup>1)</sup>IEC 60751,  $\alpha=0.00385$  <sup>2)</sup>Pt100 acc. to JIS 1604,  $\alpha=0.003916$  <sup>3)</sup>DIN 43760

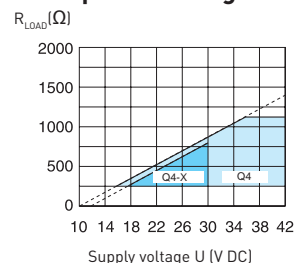
### Input connections



### Output connections



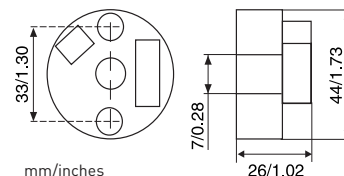
### Output load diagram



$$R_{LOAD} = (U-10)/0.023 \text{ (Q4)}$$

$$R_{LOAD} = (U-12)/0.023 \text{ (Q4-X)}$$

### Dimensions



# Universal HART-compatible 2-wire Transmitter



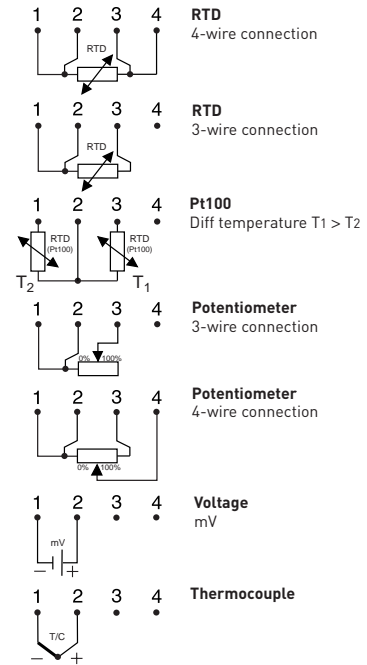
Q4-L is a smart and universal 2-wire transmitter for temperature and other measurement applications. Q4-L is fully HART-compatible, with communication through the HART protocol.

- 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
- Integrated in Emerson AMS and Siemens PDM systems

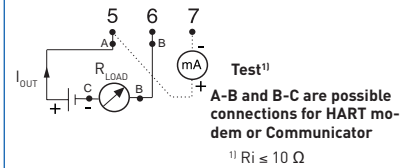
## Specifications:

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

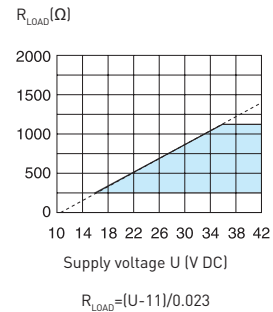
## Input connections



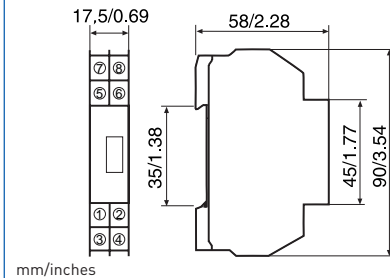
## Output connections



## Output load diagram



## Dimensions



<sup>1)</sup> IEC 60751, α=0,00385 <sup>2)</sup> Pt100 acc. JIS 1604, α=0,003916 <sup>3)</sup> DIN 43760

# Q7-R/-C

## Q7-RX/-CX

### Analog Adjustable 2-wire Transmitters



Q7 is a family of multirange 2-wire temperature transmitters for Pt100 or Thermocouple input. Designed for highest reliability and excellent industrial performance. The "low profile" housing is extremely durable and facilitates easy connections and adjustments.

- Rangeable with solderpads and potentiometers
- Temperature linear output for Pt100 (Q7-R/Q7-RX)
- mV linear output for T/C (Q7-C/Q7-CX)
- Consistent sensor break function
- Easy wiring, large center hole
- Moulded electronics for high protection

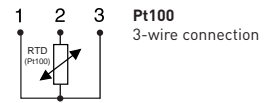
#### Specifications:

	Q7-R/Q7-RX	Q7-C/Q7-CX
<b>Input</b>	Pt100 <sup>1)</sup> , 3-wire connection	T/C J, L, T, K, N
<b>Adjustments</b>		
Span	50/100/150/200/300/400/500 °C 100/200/300/400/600/800/1000 °F	10 to 50 mV continuously Temperature ranges acc to datasheet
Fine adjustment	±10 %	±10 %
Zero	-50 to + 50 °C -60 to + 120 °F	±10 % of span
<b>Output</b>	4-20 mA	4-20 mA
<b>Linearization</b>	Temperature linear output	mV linear output
<b>Galvanic isolation</b>	No	No
<b>Power supply</b>		
Q7-R/-C	6.5 to 32 VDC	6.5 to 32 VDC
Q7-RX/-CX	8.5 to 30 VDC	8.5 to 30 VDC
<b>Sensor break</b>	Upscale, Downscale	Upscale, Downscale
<b>Intrinsic safety</b>		
Q7-RX/-CX ATEX:	II 1 G EEx ia IIB T4-T6	II 1 G EEx ia IIB T4-T6
Q7-RX/-CX FM:	IS Class 1, DIV 1, GP A-D	IS Class I, Div. 1, GP A-D
Q7-RX/-CX CSA:	Class 1, Groups A-D	Class I, Groups A-D
<b>Operating Temperature</b>	-40 to +85 °C / -40 to +185 °F	-40 to +85 °C / -40 to +185 °F
<b>Typical accuracy</b>	±0.15 % of temperature span	±0.5 % to ±1.0 % of temperature span
<b>Connection head</b>	DIN B or larger	DIN B or larger

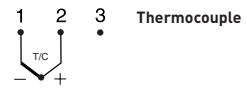
<sup>1)</sup>IEC 60751,  $\alpha=0.00385$

#### Input connections

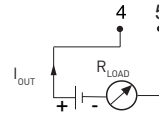
##### Q7-R/Q7-RX



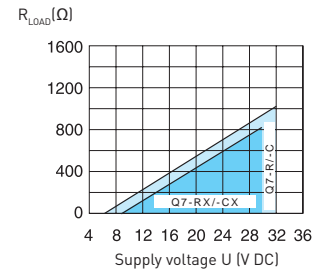
##### Q7-C/Q7-CX



#### Output connections



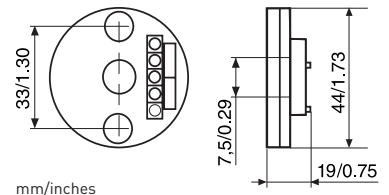
#### Output load diagram



$$R_{LOAD} = (U - 6.5) / 0.025 \text{ (Q7-R/-C)}$$

$$R_{LOAD} = (U - 8.5) / 0.025 \text{ (Q7-RX/-CX)}$$

#### Dimensions



# Q7-LR Q7-LC



## Analog Adjustable 2-wire Transmitters



Q7-LR is a multirange 2-wire temperature transmitter for Pt100 input.  
Q7-LC is adjustable for 5 different thermocouple types.  
Q7-LR/LC are designed for highest reliability and excellent industrial performance.

- Rangeable with solderpads and potentiometers
- Temperature linear output for Pt100 (Q7-LR)
- mV linear output for thermocouples (Q7-LC)
- Consistent sensor break function

### Specifications:

	Q7-LR	Q7-LC
<b>Input</b>	Pt100 <sup>1)</sup> , 3-wire connection	T/C J, L, T, K, N
<b>Sensor break</b>	Upscale, Downscale	Upscale, Downscale
<b>Adjustments</b>		
Span	50/100/150/200/300/400/500 °C 100/200/300/400/600/800/1000 °F	10 to 50 mV continuously Temperature ranges acc. to datasheet
Fine adjustment	±10 %	±10 %
Zero	-50 to +50 °C -60 to +120 °F	±10 % of span
<b>Output</b>	4-20 mA	4-20 mA
<b>Operating Temperature</b>	-20 to +70 °C / -4 to +158 °F	-20 to +70 °C / -4 to +158 °F
<b>Linearization</b>	Temperature linear output	mV linear output
<b>Galvanic isolation</b>	No	No
<b>Power Supply</b>	6.5 to 32 VDC	6.5 to 32 VDC
<b>Typical accuracy</b>	±0.15 % of temperature span	±0.5 % to ±1.0 % of temperature span
<b>Mounting</b>	Rail acc. to DIN EN50022, 35 mm	Rail acc. to DIN EN50022, 35 mm

<sup>1)</sup>IEC 60751, α=0.00385

### Input connections

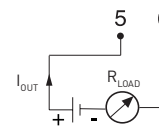
#### Q7-LR



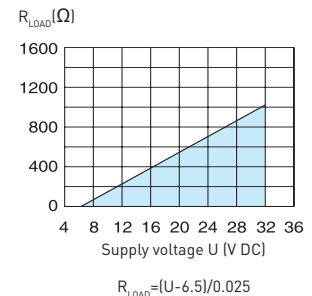
#### Q7-LC



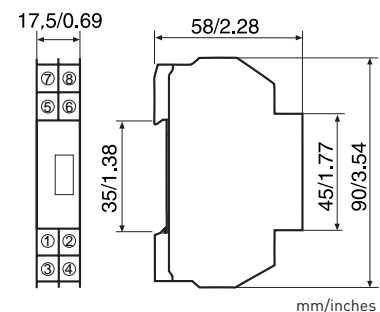
### Output connections



### Output load diagram



### Dimensions





# Q9



## Basic Programmable 2-wire Transmitter



Q9 is a basic, programmable non-isolated, easy-to-use 2-wire transmitter. The Low Profile housing has a height of only 18.5 mm / 0.72 inch. Configuration is made in seconds with the user friendly Windows software. 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.

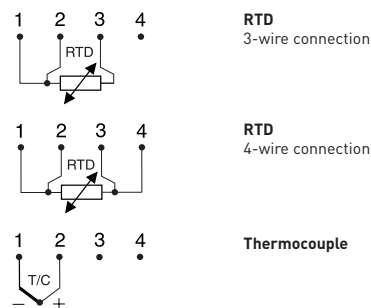
- Robust terminals with test connections
- Only 18.5 mm / 0.72 inch high
- Accepts RTD in 3- and 4-wire connection and 11 T/C types
- Temperature linear output
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Configuration without external power
- Easy-to-use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

### Specifications:

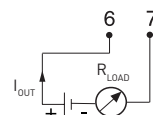
<b>Input RTD</b>	3-, 4-wire connection
Pt100 ( $\alpha=0.00385$ ) <sup>1)</sup>	-200 to +1000 °C / -328 to +1832 °F
Pt1000 ( $\alpha=0.00385$ ) <sup>1)</sup>	-200 to +200 °C / -328 to +392 °F
PtX $10 \leq X \leq 1000$ ( $\alpha=0.00385$ ) <sup>1)</sup>	Upper range depending on X-value
Pt100 ( $\alpha=0.003902$ )	-200 to +1000 °C / -328 to +1832 °F
Pt100 ( $\alpha=0.003916$ )	-200 to +1000 °C / -328 to +1832 °F
Ni100 <sup>2)</sup>	-60 to +250 °C / -76 to +482 °F
Ni1000 <sup>2)</sup>	-10 to +150 °C / +14 to +302 °F
Ni120 <sup>3)</sup>	-70 to +300 °C / -94 to +572 °F
Cu10 <sup>4)</sup>	-200 to +260 °C / -328 to +500 °F
<b>Input Thermocouples</b>	
Types	B, C, E, J, K, L, N, R, S, T, U
<b>Sensor failure</b>	Upscale, downscale or off
<b>Adjustments - Zero</b>	Any value within range limits
<b>Adjustments - Minimum spans</b>	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
T/C	2 mV
<b>Output</b>	4-20 mA, temperature linear
<b>Operating temperature</b>	-40 to +85 °C / -40 to +185 °F
<b>Galvanic isolation</b>	No
<b>Power supply</b>	8 to 32 VDC
<b>Typical accuracy</b>	±0.15 % of temperature span
<b>Connection head</b>	DIN B or larger

<sup>1)</sup> IEC 60751, <sup>2)</sup> DIN 43760, <sup>3)</sup> Edison No.7, <sup>4)</sup> Edison No.15

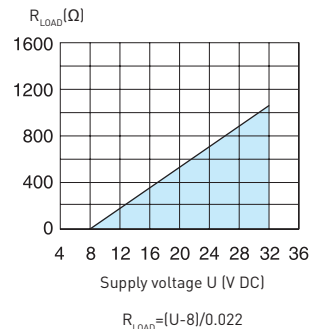
### Input connections



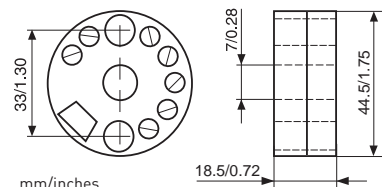
### Output connections



### Output load diagram



### Dimensions





## Q9-L



## Basic Programmable 2-wire Transmitter



Q9-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. Q9-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.

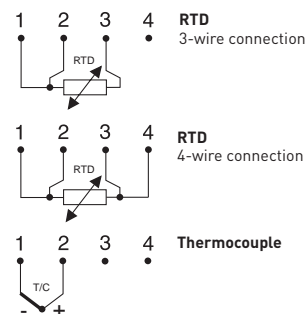
- Accepts RTD in 3- and 4-wire connection and 11 T/C types
- Temperature linear output
- Sensor error and system (sensor/transmitter) error correction for highest total accuracy
- Configuration without external power
- Easy-to-use Windows configuration software
- NAMUR compliant
- Test output without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

### Specifications:

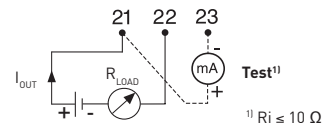
<b>Input RTD</b>	3-, 4-wire connection
Pt100 ( $\alpha=0.00385$ )	-200 to +1000 °C / -328 to +1832 °F
Pt1000 ( $\alpha=0.00385$ )	-200 to +200 °C / -328 to +392 °F
PtX $10 \leq X \leq 1000$ ( $\alpha=0.00385$ )	Upper range depending on X-value
Pt100 ( $\alpha=0.003902$ )	-200 to +1000 °C / -328 to +1832 °F
Pt100 ( $\alpha=0.003916$ )	-200 to +1000 °C / -328 to +1832 °F
Ni100 <sup>2)</sup>	-60 to +250 °C / -76 to +482 °F
Ni1000 <sup>2)</sup>	-10 to +150 °C / +14 to +302 °F
Ni120 <sup>3)</sup>	-70 to +300 °C / -94 to +572 °F
Cu10 <sup>4)</sup>	-200 to +260 °C / -328 to +500 °F
<b>Input Thermocouples</b>	
Types	B, C, E, J, K, L, N, R, S, T, U
<b>Sensor failure</b>	Upscale, downscale or off
<b>Adjustments - Zero</b>	Any value within range limits
<b>Adjustments - Minimum spans</b>	
Pt100, Pt1000, Ni100, Ni1000	10 °C / 18 °F
T/C	2 mV
<b>Output</b>	4-20 mA, temperature linear
<b>Operating temperature</b>	-20 to +70 °C / -4 to +158 °F
<b>Galvanic isolation</b>	No
<b>Power supply</b>	8 to 32 VDC
<b>Typical accuracy</b>	±0.15 % of temperature span
<b>Mounting</b>	Rail acc. to DIN EN 50022, 35 mm

<sup>1)</sup> IEC 60751, <sup>2)</sup> DIN 43760, <sup>3)</sup> Edison No.7, <sup>4)</sup> Edison No.15

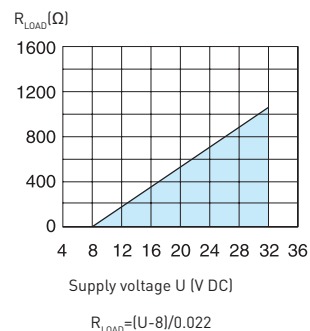
### Input connections



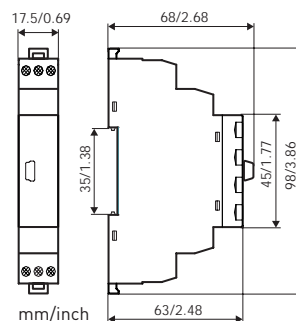
### Output connections



### Output load diagram



### Dimensions



# Q10



## Analog Adjustable 3-wire Transmitters



Q10 is a multirange 3-wire temperature transmitter with Pt100 or Pt1000 input and 0-10 V output.

Main applications are in the HVAC sector, where the control systems often require 0-10 V input signals.

Q10 is designed for high reliability and good industrial performance.

The “low profile” housing is extremely durable and facilitates easy connections and adjustments.

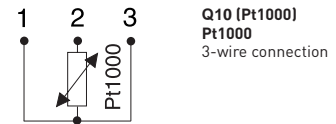
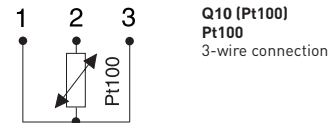
- 0-10 V output
- Rangeable with solder pads and potentiometers
- Temperature linear output
- Selectable sensor break function
- Short-circuit protected output
- Polarity protected power supply
- Easy wiring, large center hole
- Moulded electronics for high protection

### Specifications:

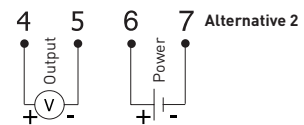
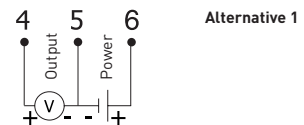
	Q10 (Pt100)	Q10 (Pt1000)
<b>Input</b>	Pt100 <sup>1)</sup> , 3-wire connection	Pt1000 <sup>1)</sup> , 3-wire connection
Maximum lead resistance	11 $\Omega$ / wire	11 $\Omega$ / wire
<b>Sensor break</b>	Upscale (>11 V), Downscale (0 V)	Upscale (>11 V), Downscale (0 V)
<b>Adjustments</b>		
Span	50/100/150/200 °C 100/200/300/400 °F	50/100/150/200 °C 100/200/300/400 °F
Fine adjustment	±10 %	±10 %
Zero	-50 to +50 °C -60 to +120 °F	-50 to +50 °C -60 to +120 °F
<b>Output</b>	0-10 V, 3-wire connection	0-10 V, 3-wire connection
Minimum load	10 k $\Omega$	10 k $\Omega$
Short-circuit protection	Yes	Yes
<b>Operating Temperature</b>	-40 to +85 °C / -40 to +185 °F	-40 to +85 °C / -40 to +185 °F
<b>Linearization</b>	Temperature linear output	Temperature linear output
<b>Galvanic isolation</b>	No	No
<b>Power Supply</b>	15 to 30 VDC (polarity protected)	15 to 30 VDC (polarity protected)
Current consumption	12 mA	12 mA
<b>Typical accuracy</b>	±0.15 % of temperature span	±0.15 % of temperature span
<b>Connection head</b>	DIN B or larger	DIN B or larger

<sup>1)</sup> IEC 60751,  $\alpha=0.00385$

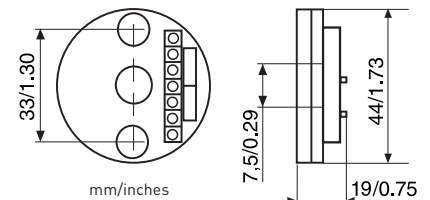
### Input connections



### Output & power supply connections



### Dimensions



# Q10-L



## Analog Adjustable 3-wire Transmitters



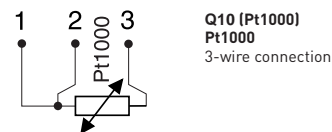
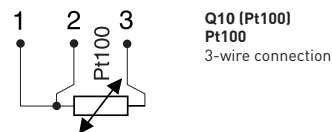
Q10 is a multirange 3-wire temperature transmitter with Pt100 or Pt1000 input and 0-10 V output.  
Main applications are in the HVAC sector, where the control systems often require 0-10 V input signals.  
Q10 is designed for high reliability and good industrial performance.

- 0-10 V output
- Rangeable with solder pads and potentiometers
- Temperature linear output
- Selectable sensor break function
- Short-circuit protected output
- Polarity protected power supply

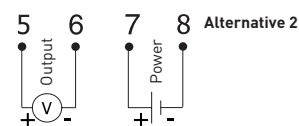
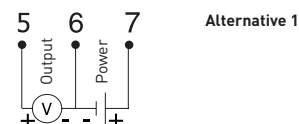
### Specifications:

	Q10 (Pt100)	Q10 (Pt1000)
<b>Input</b>	Pt100 <sup>1)</sup> , 3-wire connection	Pt1000 <sup>1)</sup> , 3-wire connection
Maximum lead resistance	11 $\Omega$ / wire	11 $\Omega$ / wire
<b>Sensor break</b>	Upscale (>11 V), Downscale (0 V)	Upscale (>11 V), Downscale (0 V)
<b>Adjustments</b>		
Span	50/100/150/200 °C 100/200/300/400 °F	50/100/150/200 °C 100/200/300/400 °F
Fine adjustment	±10 %	±10 %
Zero	-50 to +50 °C -60 to +120 °F	-50 to +50 °C -60 to +120 °F
<b>Output</b>	0-10 V, 3-wire connection	0-10 V, 3-wire connection
Minimum load	10 k $\Omega$	10 k $\Omega$
Short-circuit protection	Yes	Yes
<b>Operating Temperature</b>	-20 to +70 °C / -4 to +158 °F	-20 to +70 °C / -4 to +158 °F
<b>Linearization</b>	Temperature linear output	Temperature linear output
<b>Galvanic isolation</b>	No	No
<b>Power Supply</b>	15 to 30 VDC (polarity protected)	15 to 30 VDC (polarity protected)
Current consumption	12 mA	12 mA
<b>Typical accuracy</b>	±0.15 % of temperature span	±0.15 % of temperature span
<b>Mounting</b>	Rail acc. to DIN EN50022, 35 mm	Rail acc. to DIN EN50022, 35 mm

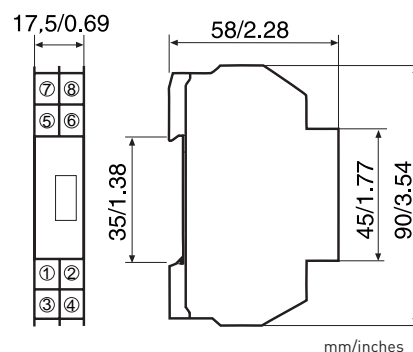
### Input connections



### Output & power supply connections



### Dimensions



<sup>1)</sup>IEC 60751,  $\alpha=0.00385$

