

## **Product Datasheet - Technical Specifications**



More information in our Web-Shop at **www.meilhaus.com** and in our download section.

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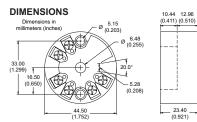


#### ST131 RTD input head-mount transmitter

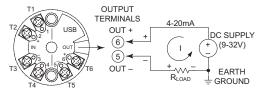




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#### **OUTPUT CONNECTIONS**





100 ohm Pt RTD or 0-900 ohm input ◆ 4-20mA output ◆ Loop-powered, 9-32V DC

#### **Description**

The ST131 is a low-cost two-wire transmitter that converts a 100 ohm Platinum RTD sensor input to a proportional 4-20mA signal. Power is received from the output loop current. The transmitter provides sensor excitation and includes linearization, lead-wire compensation, and lead-break detection functions. Setup and calibration are fast and easy with a convenient USB connection to your PC and Acromag's Windows configuration software.

Advanced signal processing capabilities, variable range input, and convenient USB programming make this instrument a very versatile temperature transmitter for RTD and resistance elements. These transmitters are designed to withstand harsh industrial environments and operate reliably across a wide temperature range with very low drift. They feature RFI, EMI, ESD, EFT, and surge protection plus low radiated emissions.

#### **Key Features & Benefits**

- Easy setup and digital calibration via USB with Windows configuration software
- Flexible RTD or linear resistance input ranges
- Supports any 100 ohm Pt RTD (375-393 alpha)
- High accuracy and linearity
- Advanced analog signal conditioning ASIC eliminates digitization errors
- Low temperature drift
- Fast response time (< 500µS)
- Programmable over/under-range limits
- Selectable upscale or downscale operation for sensor errors and lead-break detection
- NAMUR NE43 compliant fault response
- Reverse polarity protected with non-polarized output
- Mounts in DIN Form B sensor heads
- Optional DIN rail adapter
- Wide ambient operation (-40 to 80°C)
- Hardened for harsh environments
- CE Compliant. UL/cUL Class 1 Div 2 Zone 2 approvals. ATEX Certified.



ST130 Series Transmitter
Configuration Software
is downloadable (FREE)
from www.acromag.com.





#### **ST131** RTD input head-mount transmitter

#### **Performance Specifications**

IMPORTANT: To prevent damage or errors from grounded PCs and surges, Acromag strongly recommends use of the USB-ISOLATOR when configuring an ST130 transmitter.

#### USB Interface

#### **USB** Connector

USB Mini-B type socket, 5-pin.

#### **USB Data Rate**

12Mbps. USB v1.1 and 2.0 compatible.

#### **USB Transient Protection**

Transient voltage suppression on power and data lines.

#### USB Cable Length

5.0 meters maximum.

#### Driver

Not required. Uses built-in Human Interface Device (HID) USB drivers of the Windows operating system.

#### Input

#### Input Configuration

Two-, three- or four-wire sensor input connections.

#### Input Ranges

100 ohm Platinum RTD, alpha = 375-393, 385 (default), -50 to 900°C (-58 to 1652°F).

0 to 900 ohms linear resistance.

Programs in °C or ohmic integers only.

#### Zero Adjust

RTD 3/4 wire: -50, -17.78, or 0°C (-58, 0, 32°F). RTD 2 wire: 0°C (32°F) fixed.

RES: 0 or 100 ohms.

#### Full-Scale Adjust

RTD: up to 900°C (1652°F), 50°C (58°F) span minimum. Resistance: up to 900 ohms, 8 ohm span minimum.

#### **Excitation Current**

0.5mA, nominal.

#### **Lead-Wire Compensation**

25 ohms per lead.

#### Lead Break (Sensor Burnout) Detection

Configurable for either upscale or downscale.

#### Output

#### Output Range

4 to 20mA DC.

Under-scale limit adjustable for 2.1 to 3.6mA, nominal. Over-scale limit adjustable for 21 to 30mA, nominal.

#### Output Fault Limits (Sensor Fault)

0.4mA below selected under-scale threshold and 1.0mA above over-scale threshold, typical.



#### **Output Compliance**

RLOAD = (VSUPPLY - 9V) / 0.02A. RLOAD = 0 to 750 ohms @ 24V DC.

#### Output Accuracy

Better than ±0.1% of span, typical for spans less than 500°C. Includes the effects of repeatability, terminal point conformity, and linearization, but does not include sensor error.

#### **Ambient Temperature Effect**

Better than ±0.010% per °C of input span or ±80ppm/°C, typical. Includes the combined effects of zero and span drift over temperature.

#### Output Response Time

500µS, typical with 250 ohm load.

#### Environmental

#### Operating temperature

-40 to 80°C (-40° to 176°F).

#### Storage temperature

-40 to 85°C (-40 to 185°F).

#### Relative humidity

5 to 95% non-condensing.

#### **Power Requirement**

9-32V DC SELV (Safety Extra Low Voltage), 28mA max.

#### Isolation

Not isolated.

#### Shock and Vibration Immunity

Vibration: 5g, per IEC 60068-2-64. Shock: 50g, per IEC 60068-2-27.

#### Radiated Emissions

BS EN 61000-6-4, CISPR 16.

#### Radiated Field Immunity (RFI)

BS EN 61000-6-2, IEC 61000-4-3.

#### Conducted RF Immunity (CRFI)

BS EN 61000-6-2, IEC 61000-4-6.

#### Electrostatic Discharge (ESD)

BS EN 61000-6-2, IEC 61000-4-2.

#### Electrical Fast Transient (EFT)

BS EN 61000-6-2, IEC 61000-4-4.

#### Surge Immunity

BS EN 61000-6-2, IEC 61000-4-5.

#### Approvals

CE compliant. UL/cUL listings. ATEX Certified.
Designed for Class I; Division 2; Groups ABCD; Zone 2.

☑ II 3 G Ex nA IIC T4 Gc -40°C < Ta < +80°C

#### Physical

#### General

General purpose enclosure with potted circuit designed for mounting in DIN Form B connection heads.

#### **DIN-Rail Mounting**

Using optional ST130-DIN adapter, unit can mount to 35x15mm, T-type or G-type DIN rails.

#### Case Material

Self-extinguishing polycarbonate ABS plastic, UL94 V-0 rated base material. USB dust cap material is Santoprene, 251-70W232.

#### **Printed Circuit Board**

Military grade fire-retardant epoxy glass per IPC-4101/98 with humi-seal conformal coating.

#### I/O Connectors

Barrier strip type, captive screw terminals. Wire range: AWG #14-28 solid or stranded.

#### **Dimensions**

Diameter = 44.5mm (1.752 inches), Height = 23.4mm (0.921 inches). Conforms to DIN 43 729 Form B size requirements.

#### Shipping Weight

0.5 pounds (0.22 Kg) packed.

#### **Ordering Information**

#### Models

#### ST131-0600

Transmitter, 100 ohm Pt RTD input, CE Compliant. Default calibration: Pt385 RTD, 3-wire, 0-200°C input, 4-20mA output, upscale fault detect.

#### ST131-0610

Same as ST131-0600 plus UL/cUL Class 1 Div 2 Zone 2 approval and ATEX Certified.

If mounting screws are required, order one ST130-MTG with each unit.

#### Services

#### ST13x-Config/Cal

Factory custom configuration/calibration service. Specify input type, input/output zero and full-scale values, filtering, and sensor fault settings on order.

#### **Software**

#### ST13C-SIP

Software Interface Package. Includes configuration software (ST130-CONFIG), isolator (USB-Isolator) and two USB cables (Part # 4001-112, 4001-113) for Acromag ST130 Series head-mount transmitters. One (1) kit recommended per customer.

#### Accessories

#### Connection Head Enclosures

See Bulletin 8400-630 or www.acromag.com for info.

#### ST130-DIN

DIN-rail adapter.

#### ST130-MTG

Replacement mounting kit (screws and relief springs) for installing ST130 transmitter in a DIN Form B connection head.

#### **USB-ISOLATOR**

USB-to-USB isolator, includes USB cable (4001-112).





#### Thermocouple/millivolt input head-mount transmitter 🕸 🖫 CE









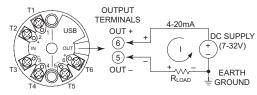




#### INPUT CONNECTIONS INPUT MILLIVOLTOR **TERMINALS** THERMOCOUPLE NC (1) **≻**(2) ±100mV IN+ TYPE J, K, T, R. S. E. B. N IN -**≻**③ NC 4

## **DIMENSIONS** (0.411) (0.510) Dimensions in millimeters (inches

#### **OUTPUT CONNECTIONS**





Universal thermocouple (8 types) or ±100mV input ◆ 4-20mA output ◆ Loop-powered, 7-32V DC

#### **Description**

The ST132 is a low-cost two-wire transmitter that converts a millivolt or thermocouple sensor input to a proportional 4-20mA control signal. Power is received from the output loop current. The transmitter performs signal linearization, coldjunction compensation, and lead-break detection functions.

Setup and calibration are fast and easy with a convenient USB connection to your PC and Acromag's Windows configuration software.

Advanced signal processing capabilities, variable range input, and convenient USB programming make this instrument a very versatile temperature measurement device. These transmitters can withstand harsh industrial environments and operate reliably across a wide temperature range with very low drift. They feature RFI, EMI, ESD, EFT, and surge protection plus low radiated emissions.

ST130 Series Transmitter

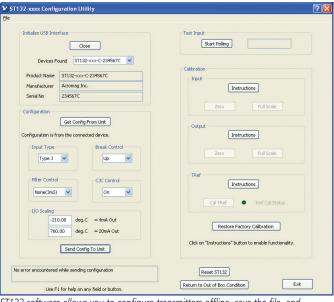
Configuration Software

is downloadable (FREE)

from www.acromag.com.

#### **Key Features & Benefits**

- Easy setup and digital calibration via USB with Windows configuration software
- Flexible thermocouple or millivolt input ranges (TC Type J, K, T, R, S, E, B, N or ±100mV)
- 24-bit A/D microcontroller
- High accuracy, linearity, stability, and reliability
- Low temperature drift (<75ppm/°C)
- Fast response time (as low as 8ms)
- Supports reverse-acting (inverse) output
- Selectable upscale or downscale operation for sensor errors and lead-break detection
- Non-polarized output/power connection
- Mounts in DIN Form B sensor heads
- Shock (50g) and vibration (5g) resistant
- Optional DIN rail adapter
- Wide ambient operation (-40 to 80°C)
- Hardened for harsh environments
- CE compliant. UL/cUL Class 1 Div 2 Zone 2 approvals. ATEX Certified.



ST132 software allows you to configure transmitters offline, save the file, and download settings into units later, at your convenience.





#### **ST132** Thermocouple input head-mount transmitter with USB-configuration

#### **Performance Specifications**

IMPORTANT: To prevent damage or errors from grounded PCs and surges, Acromag strongly recommends use of the USB-ISOLATOR when configuring an ST130 transmitter.

#### ■ USB Interface

#### **USB** Connector

USB Mini-B type socket, 5-pin.

#### **USB Data Rate**

12Mbps. USB v1.1 and 2.0 compatible.

#### **USB Transient Protection**

Transient voltage suppression on power and data lines.

#### USB Cable Length

5.0 meters maximum.

#### Driver

Not required. Uses built-in Human Interface Device (HID) USB drivers of the Windows operating system.

#### Input

#### Default Configuration/Calibration

Input: TC J, -17.78 to 60°C, upscale break, high filter. Output: 4 to 20mA.

#### Input Ranges and Accuracy

Input	Range	Accuracy
TC J	-210 to 760°C (-346 to 1400°F)	±0.5°C
TC K	-200 to 1372°C (-328 to 2502°F)	±0.5°C
TC T	-260 to 400°C (-436 to 752°F)	±0.5°C
TC R	-50 to 1768°C (-58 to 3214°F)	±1.0°C
TC S	-50 to 1768°C (-58 to 3214°F)	±1.0°C
TC E	-200 to 1000°C (-328 to 1832°F)	±0.5°C
TC B	260 to 1820°C (500 to 3308°F)	±1.0°C
TC N	-230 to 1300°C (-382 to 2372°F)	±1.0°C
mV	-100 to 100mV	±0.1mV

Error includes the effects of repeatability, terminal point conformity, and linearization at 25°C operating ambient temperature.

## Thermocouple Reference (Cold Junction Compensation)

±0.1°C typical, ±0.3°C maximum at 25°C.

#### **Ambient Temperature Effect**

Better than ±75ppm/°C (±0.0075%/°C).

#### Zero Scaling Adjust

0 to 95% of range, typical.

#### Full Scale Adjust

5 to 100% of full scale range, typical.

#### Lead Break (Sensor Burnout) Detection

Configurable for either upscale or downscale.

Thermocouple Input Bias Current ±250nA typical (TC break).

#### Input Over-Voltage Protection

Bipolar Transient Voltage Suppressers (TVS), 5.6V clamp level typical.

#### Input Filter Bandwidth

-3dB at 55Hz, typical, normal mode filter.

#### Resolution

Millivolt input: 0.005% (1 part in 20,000) Thermocouple input: 0.1°C.

#### Input Filter

Normal mode filtering, plus selectable digital filtering settings (none, low, medium, high) optimized and fixed per input range within the A/D converter.

#### Noise Rejection (Normal Mode)

75dB @ 60Hz, typical with 100 ohm input unbalance.

#### Output

#### Output Range

4 to 20mA DC.

#### **Output Compliance**

RLOAD = (VSUPPLY - 7V) / 0.02A. RLOAD = 0 to 850 ohms @ 24V DC.

#### Output Response Time (for step input change)

Time to reach 98% of final output value ranges from 8ms (with no filtering) to 800ms (with high filtering).

#### Environmental

#### Operating temperature

-40 to 80°C (-40° to 176°F).

#### Storage temperature

-40 to 85°C (-40 to 185°F).

#### Relative humidity

5 to 95% non-condensing.

#### **Power Requirement**

7-32V DC SELV (Safety Extra Low Voltage), 25mA max.

#### Isolation

Not isolated.

#### Shock and Vibration Immunity

Vibration: 5g, per IEC 60068-2-64. Shock: 50g, per IEC 60068-2-27.

#### Electromagnetic Compatibility (EMC) Compliance

Radiated Emissions: BS EN 61000-6-4, CISPR 16. RFI: BS EN 61000-6-2, IEC 61000-4-3.

Conducted RFI: BS EN 61000-6-2, IEC 61000-4-6. ESD: BS EN 61000-6-2, IEC 61000-4-2.

EFT: BS EN 61000-6-2, IEC 61000-4-4.

Surge Immunity: BS EN 61000-6-2, IEC 61000-4-5.

#### Approvals

CE compliant. UL/cUL listings. ATEX Certified. Designed for Class I; Division 2; Groups ABCD; Zone 2. B II 3 G Ex nA IIC T4 Gc -40°C  $\leq$  Ta  $\leq$  +80°C

#### Physical

#### General

General purpose enclosure with potted circuit designed for mounting in DIN Form B connection heads.

#### Case Material

Self-extinguishing polycarbonate ABS plastic, UL94 V-0 rated base material. USB dust cap material is Santoprene, 251-70W232.

#### I/O Connectors

Barrier strip type, captive screw terminals. Wire range: AWG #14-28 solid or stranded.

#### **Shipping Weight**

0.5 pounds (0.22 Kg) packed.

#### **Ordering Information**

#### Models

#### ST132-0600

Transmitter, thermocouple/millivolt input, CE approval.

#### ST132-0610

Same as ST132-0600 plus UL/cUL Class 1 Division 2 Zone 2 approval and ATEX Certified.

If mounting screws are required, order one ST130-MTG with each unit.

#### Services

#### ST13x-Config/Cal

Factory custom configuration/calibration service. Specify input type, input/output zero and full-scale values, filtering, and sensor fault settings on order.

#### Software

ST13C-SIP (recommend one kit per customer)
Software Interface Package. Includes configuration
software (ST130-CONFIG), isolator (USB-ISOLATOR)
and two USB cables (Part # 4001-112, 4001-113) for
Acromag ST130 Series head-mount transmitters.

#### Accessories

#### **Connection Head Enclosures**

See Bulletin 8400-630 or www.acromag.com for info.

#### ST130-DIN

DIN-rail adapter (Type G or T).

#### ST130-MTG

Replacement mounting kit (screws and relief springs) for installing ST130 transmitter in a DIN Form B connection head.

#### USB-ISOLATOR

USB-to-USB isolator, includes USB cable (4001-112).







#### **ST133**







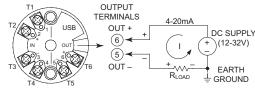




#### INPUT CONNECTIONS MILLIVOLT OR INPUT THERMOCOUPLE **TERMINALS** OPT GND (1) **≻**(2) ±100mV IN+ TYPE J, K, T, R. S. E. B. N IN -**≻**③ NC (4)

## **DIMENSIONS** Dimensions in millimeters (inches

#### **OUTPUT CONNECTIONS**





Thermocouple (8 types) or ±100mV input ◆ 4-20mA output ◆ 1500V isolation ◆ Loop-powered

#### **Description**

The ST133 is a low-cost two-wire transmitter that isolates and converts a millivolt or thermocouple sensor input to a proportional 4-20mA control signal. Power is received from the output loop current. The transmitter performs signal linearization, cold-junction compensation, and lead-break detection functions.

High-voltage isolation separates the input from the output circuit. Isolation protects from surges, reduces noise, and eliminates ground loop errors.

ST132/ST133-xxxx Configuration Utility

Manufacture

Serial No

Open

Devices Found ST132-0600-303366A V

Get Config From Unit Configuration basn't been retrieved yet.

Up

dea.C = 4mA Out dea.C = 20mA Out

⊙ Deg. C ODeg. F

Setup and calibration are fast and easy with a convenient USB connection to your PC and Acromag's Windows configuration software.

Advanced signal processing capabilities, variable range input, and convenient USB programming make this instrument a very versatile temperature measurement device. These transmitters can withstand harsh industrial environments and operate reliably across a wide temperature range with very low drift. They feature RFI, EMI, ESD, EFT, and surge protection plus low radiated emissions.

> ST130 Series Transmitter Configuration Software is downloadable (FREE) from www.acromag.com.

#### **Key Features & Benefits**

- Easy setup and digital calibration via USB with Windows configuration software
- Flexible thermocouple or millivolt input ranges (TC Type J, K, T, R, S, E, B, N or ±100mV)
- 1500V input isolation
- 24-bit A/D microcontroller
- High accuracy, linearity, stability, and reliability
- Low temperature drift (<75ppm/°C)
- User selectable filtering (none, low, med. high)
- Fast response time (as low as 90ms)
- Supports reverse-acting (inverse) output
- Selectable upscale or downscale operation for sensor errors and lead-break detection
- Non-polarized output/power connection
- Mounts in DIN Form B sensor heads
- Shock (50g) and vibration (5g) resistant
- Optional DIN rail adapter
- Wide ambient operation (-40 to 80°C)
- Hardened for harsh environments
- CE compliant. UL/cUL Class 1 Div 2 Zone 2 approvals. ATEX Certified.



Start Poling

Instructions

Instructions

Instructions

Restore Factory Calibration





#### ST133 Isolated thermocouple input head-mount transmitter with USB-configuration

#### **Performance Specifications**

IMPORTANT: To prevent damage or errors from grounded PCs and surges, Acromag strongly recommends use of the USB-ISOLATOR when configuring an ST130 transmitter.

#### ■ USB Interface

#### **USB** Connector

USB Mini-B type socket, 5-pin.

#### **USB Data Rate**

12Mbps. USB v1.1 and 2.0 compatible.

#### **USB Transient Protection**

Transient voltage suppression on power and data lines.

#### USB Cable Length

5.0 meters maximum.

#### Driver

Not required. Uses built-in Human Interface Device (HID) USB drivers of the Windows operating system.

#### Input

#### Default Configuration/Calibration

Input: TC J, -210 to 760°C, upscale fault, high filter. Output: 4 to 20mA.

#### Input Ranges and Accuracy

Input	Range	Accuracy
TC J	-210 to 760°C (-346 to 1400°F)	±0.5°C
TC K	-200 to 1372°C (-328 to 2502°F)	±0.5°C
TC T	-260 to 400°C (-436 to 752°F)	±0.5°C
TC R	-50 to 1768°C (-58 to 3214°F)	±1.0°C
TC S	-50 to 1768°C (-58 to 3214°F)	±1.0°C
TC E	-200 to 1000°C (-328 to 1832°F)	±0.5°C
TC B	260 to 1820°C (500 to 3308°F)	±1.0°C
TC N	-230 to 1300°C (-382 to 2372°F)	±1.0°C
mV	-100 to 100mV	±0.1mV

Error includes the effects of repeatability, terminal point conformity, and linearization at 25°C operating ambient temperature.

## Thermocouple Reference (Cold Junction Compensation)

±0.1°C typical, ±0.3°C maximum at 25°C.

#### **Ambient Temperature Effect**

Better than ±75ppm/°C (±0.0075%/°C).

#### Zero Scaling Adjust

0 to 95% of range, typical.

#### Full Scale Adjust

5 to 100% of full scale range, typical.

#### Lead Break (Sensor Burnout) Detection

Configurable for either upscale (24mA) or downscale (3.3mA) operation.

### Thermocouple Input Bias Current ±250nA typical (TC break).

#### Input Over-Voltage Protection

Bipolar Transient Voltage Suppressers (TVS), 5.6V clamp level typical.

#### Resolution

Millivolt input: 0.0025% (1 part in 40,000) Thermocouple input: 0.1°C.

#### Input Filter

Normal mode filtering, plus selectable digital filtering settings (none, low, medium, high) optimized and fixed per input range within the A/D converter.

#### Noise Rejection (Normal Mode)

75dB @ 60Hz, typical with 100 ohm input unbalance.

#### Output

#### **Output Range**

4 to 20mA DC.

#### **Output Compliance**

RLOAD = (VSUPPLY - 12V) / 0.024A. RLOAD = 0 to 500 ohms @ 24V DC.

#### Output Response Time (for step input change)

# Time to reach 98% of final output value (typical) No filtering 90 to 125ms Low filter 240 to 420ms Medium filter 550 to 1020ms High filter 900 to 1500ms

#### Environmental

#### Operating temperature

-40 to 80°C (-40° to 176°F).

#### Storage temperature

-40 to 85°C (-40 to 185°F).

#### Relative humidity

5 to 95% non-condensing.

#### Power Requirement

12-32V DC SELV (Safety Extra Low Voltage), 24mA max.

#### Isolation

1500V AC peak. 250V AC (354V DC) continuous isolation between input and output circuits.

#### Shock and Vibration Immunity

Vibration: 5g, per IEC 60068-2-64. Shock: 50g, per IEC 60068-2-27.

#### Electromagnetic Compatibility (EMC) Compliance

Radiated Emissions: BS EN 61000-6-4, CISPR 16.
RFI: BS EN 61000-6-2, IEC 61000-4-3.
Conducted RFI: BS EN 61000-6-2, IEC 61000-4-6.
ESD: BS EN 61000-6-2, IEC 61000-4-2.
EFT: BS EN 61000-6-2, IEC 61000-4-4.
Surge Immunity: BS EN 61000-6-2, IEC 61000-4-5.

#### **Approvals**

CE compliant. UL/cUL listings. ATEX Certified.
Designed for Class I; Division 2; Groups ABCD; Zone 2.

☑ II 3 G Ex nA IIC T4 Gc -40°C < Ta < +80°C

#### Physical

#### General

General purpose enclosure with potted circuit designed for mounting in DIN Form B connection heads.

#### Case Material

Self-extinguishing polycarbonate ABS plastic, UL94 V-0 rated base material. USB dust cap material is Santoprene, 251-70W232.

#### I/O Connectors

Barrier strip type, captive screw terminals. Wire range: AWG #14-28 solid or stranded.

#### **Shipping Weight**

0.5 pounds (0.22 Kg) packed.

#### **Ordering Information**

#### Models

#### ST133-1600

Transmitter, thermocouple/millivolt input, CE approval.

#### ST133-1610

Same as ST133-1600 plus UL/cUL Class 1 Division 2 Zone 2 approval and ATEX Certified.

If mounting screws are required, order one ST130-MTG with each unit.

#### **Services**

#### ST13x-Config/Cal

Factory custom configuration/calibration service. Specify input type, input/output zero and full-scale values, filtering, and sensor fault settings on order.

#### Software

ST13C-SIP (recommend one kit per customer)
Software Interface Package. Includes configuration
software (ST130-CONFIG), isolator (USB-ISOLATOR)
and two USB cables (Part # 4001-112, 4001-113) for
Acromag ST130 Series head-mount transmitters.

#### Accessories

#### Connection Head Enclosures

See Bulletin 8400-630 or www.acromag.com for info.

#### ST130-DIN

DIN-rail adapter (Type G or T).

#### **USB-ISOLATOR**

USB-to-USB isolator, includes USB cable (4001-112).





#### Mounting Accessories Enclosures, adapters, mounting kits



Simplifies mounting of ST130 Series transmitters ◆ Ideal for mounting in the field or in a control room

#### **Description**

For your convenience, Acromag offers a variety of head-mount enclosures and other mounting accessories to simplify your system installation.

#### **Ordering Information**

NOTE: For more information visit www.acromag.com.

#### **Mounting Accessories**

#### ST130-MTG

Replacement mounting Kit - Includes two (2) M4 mounting screws, (2) 6-32 mounting screws, and (2) two relief springs for mounting an ST130 transmitter in a DIN Form B connection head.

#### 4001-115K

Explosion-Proof Aluminum Connection Head -FM/FMC, Class I, Division 1, Groups A, B, C, D, T6; Class II, III, Division 1, Groups E, F, G, T6; NEMA 4 rated. Includes M4 mounting screws and springs.

#### 4001-116K

Explosion-Proof Stainless Steel Connection Head -FM/FMC, Class I, Division 1, Groups A, B, C, D, T6; Class II, Division 1, Groups E, F, G, T6; Class III, NEMA 4X rated. Includes M4 mtg screws and springs.

#### 4001-117K

General-Purpose Aluminum Connection Head -NEMA 4X and IP68 rated. Includes M4 mounting screws and springs.

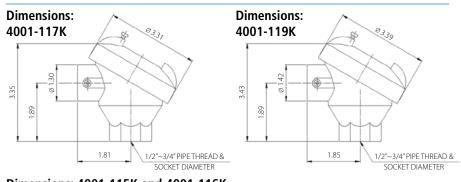
#### 4001-119K

General-Purpose Cast Iron Connection Head -NEMA 4X rated. Includes M4 mtg screws and springs.

#### ST130-DIN

Series ST DIN Rail Adapter – Includes a DIN rail bracket with mounting screws that connects a ST130 transmitter to a 35mm T-type or G-type DIN rail. Includes M4 mounting screws and springs.





ST130-DIN

**DIN-rail Adapter** 

Includes ST130-MTG

