Weidmüller

ACT20X Series for hazardous area applications

Section A

Weidmüller has specifically designed the ACT20X line for process automation applications in Ex and non-Ex zones. The 17 different variants can process all standard input signals (such as 2-wire, HART®-, NAMUR-, RTD, thermocouple or DC signals) from Ex zone 0. They can also handle digital or analogue signals from Ex-zone field devices to the controller.

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ACT20X Intrinsically safe isolators for hazardous area applications

ACT20X signal converters

The ACT20X is a completely new line of signal converter products for the Ex zone. These compact modules typically require only 11 mm per channel and take up very little space in the electrical cabinet. Weidmüller has specifically designed the ACT20X line for process automation applications in Ex and non-Ex zones. The 17 different variants can process all standard input signals (such as 2-wire, HART®-, NAMUR-, RTD, thermocouple or DC signals) from Ex zone 0. They can also handle digital or analogue signals from Ex-zone field devices to the controller. The integrated relay output issues an alert in the event of a sensor malfunction; this makes troubleshooting easier and reduces facility down times.

The WI-Manager configuration software is based on FDT (Field Device Tool) technology. The software allows you to configure all ACT20X products with your PC so that they can be custom-fit to a wide variety of process applications. Weidmüller provides a device type manager (DTM) for the ACT20X modules that can be used in any FDT-based frame. The DTMs allow you to configure different devices quickly and accurately. They also enable you to analyse measurements and diagnostics data. The DTM can also be used to clearly identify the connected device. The FDT frame application "WI Manager" and the device-specific DTMs are available from Weidmüller free of charge.

The ACT20X modules can be used in a temperature range from –20 °C to +60 °C without limitations. The modules can be installed in the safe zone or in the explosion risk area of Zone 2. The ACT20Xs always deliver a pure, interference-free signal thanks to their accuracy, temperature stability and high insulation strength. They can easily be used around the globe since they already have all the necessary international approvals, including ATEX, IECEx, GOST and FM.

The newest member of the ACT20X family is the ACT20X-HUI-SAO-LP. This offers an intrinsically safe input for 0/4 to 20 mA, 0 to10 V, temperature and resistance signals, and separates the Ex zone from the safe zone using output loop powered technology. The narrow 12.5mm module is supplied via the 4 to 20 mA output.

Features

- International approvals for Zone 0, 1 and 2 (IECEx, ATEX) and Class 1 Division 1 and 2 (FM)
- Analogue and binary signal interface to Zone 0/Div.1 for explosion-risk inputs and outputs
- All standard input signals (4 to 20 mA HART®-, NAMUR-, RTD- or thermocouple signals) out of Ex zone 0, 1 or 2
- Two-channel type saves space in the electrical cabinet and reduces installation costs
- HART® transparent signal isolator
- Integrated alarm contact
- Configuration over FDT/DTM standard with the frame application software "WI Manager"

Hazardous Area Digital Input / Safe Area Relay Output

Features

- Namur or closed contact input
- 1 or 2 channels
- Input wiring selection according to terminal numbers
- Relay output <2Hz
- Fault relay standard
- IECEX & ATEX approval
- Installation in Zone 2
- 24Vdc supply

Description

Weidmüller ACT20X-HDI-SDO-Rxx models accept Namur sensor or closed contacts in the hazardous area from Zone 0,1,2 and repeat the signal through relay contacts in the safe area. A status relay is supplied for input fault detection with LED indication on front panel providing operational status. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

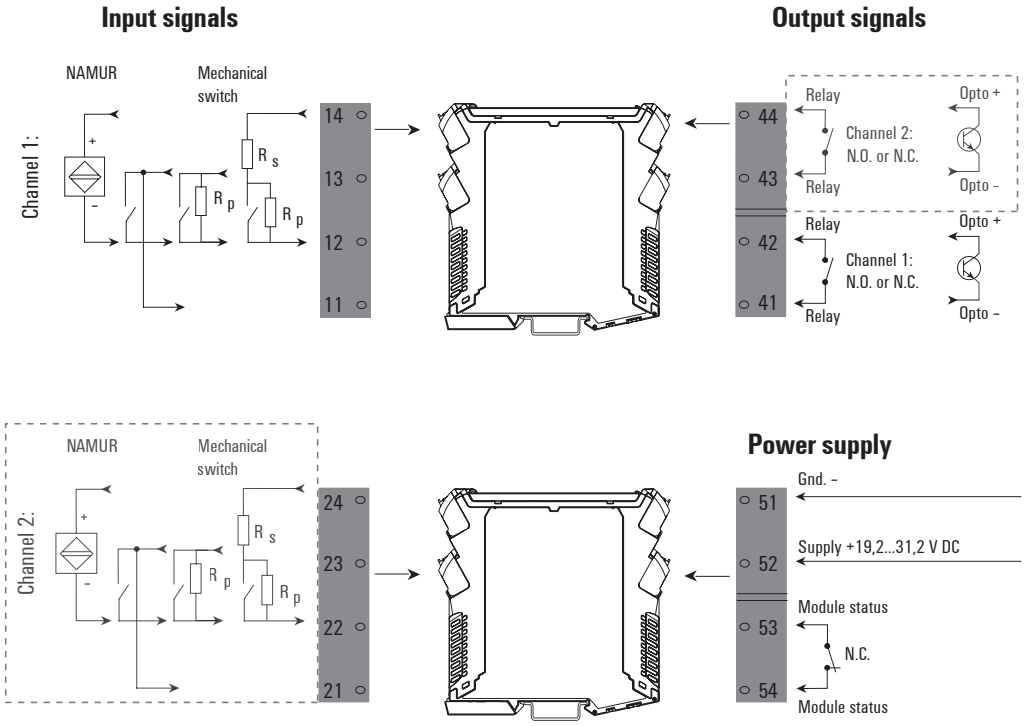
Technical Data

Inputs (Hazardous area) IECEX	Volt free conatct or Namur sensor to EN60947 according to terminal numbers
Namur supply	8Vdc / 8mA
Input parameters	resistance : 1kΩ Pulse Duration >0.1mS resistors RS=15kΩ (Lead breakage) RP=750Ω (short Circuit)
Terminals	Channel 1: 11 - 14 Channel 2: 21-24
Outputs (Safe/ Zone 2)	Relay SPST. NO or NC model dependent or configured using WI Manager
Terminals	Channel 1: 41,42 Channel 2: 43,44
Switching Frequency	2Hz
Rated switching Voltage	**Safe Area:** ≤250Vac/ 30Vdc ≤500VA/60W ≤2A AC/DC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤2A AC/DC
Module status relay	Identifies Input error
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2V - 31.2Vdc ≤ 3watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95%RH (non condensing)
Protection Degree	IP20
MTBF	207 years
Insulation	300V Rated - 2.6kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx ATEX (KEMA09ATEX0168X)
IECEX: KEM09.0072X	Ex nA nC IIC T4 Gc, [Ex ia Ga] IIC/IiB/IIA, [Ex ia Da] IIIC
	Uo = 10.6 V; 10 = 12 mA; Po = 32 mW; Co = 2.0 uF (IIC) or 6.0 uF (IIB) or 18.0 uF (IIA);
	Lo = 260 mH (IIC) or 780 mH (IIB) or 1000 mH (IIA); Lo/Ro = 1150 uH/O (all groups);
	for Ex iaD, the parameters of group IIB apply.

All certificates available from www.weidmuller.com.au

Ordering Data

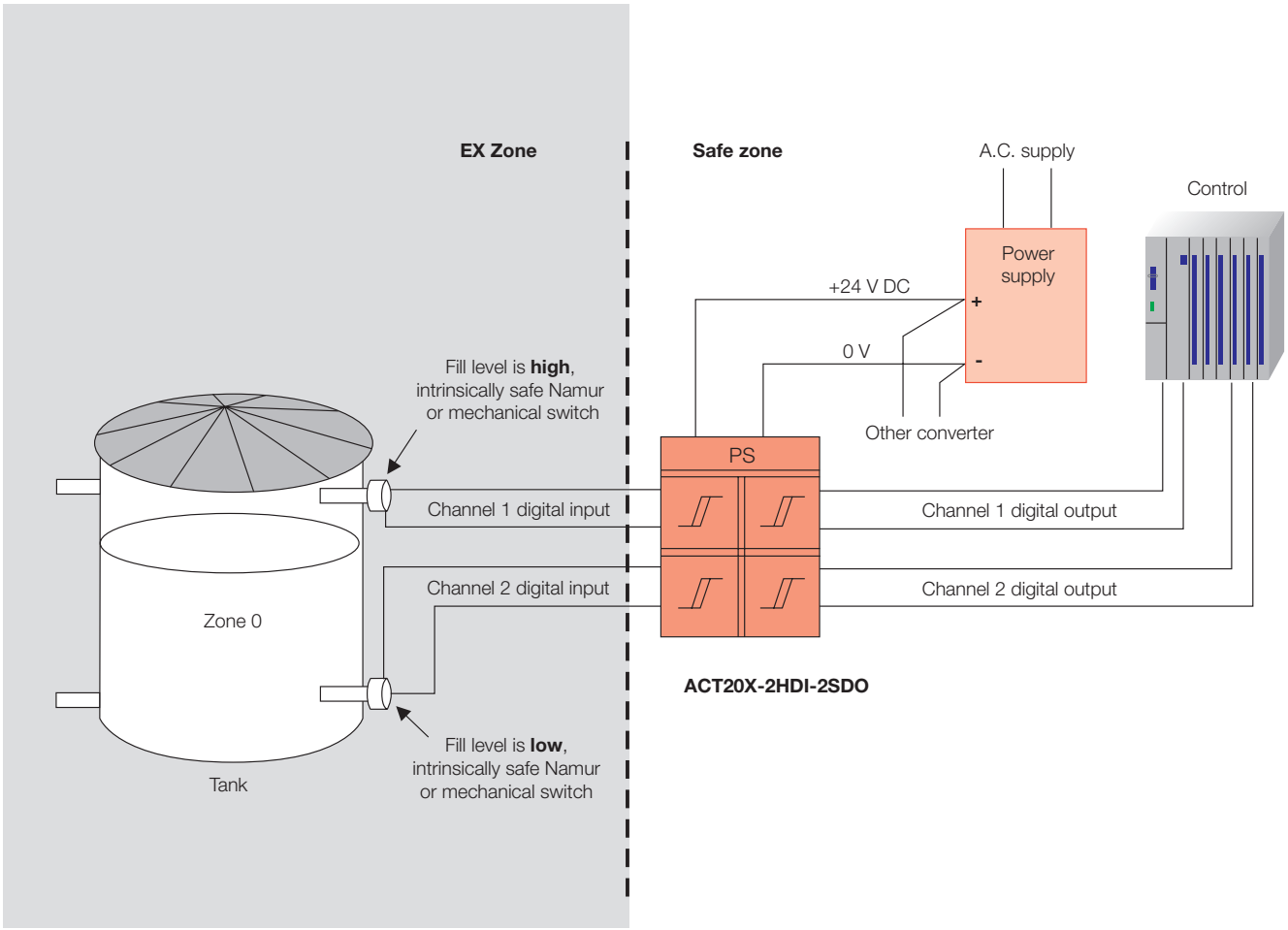
Type	Description	Order No.
ACT20X-HDI-SDO-RNO-S	Single Channel, Screw Connection, Normally Open Contact Output	**8965340000**
ACT20X-HDI-SDO-RNC-S	Single Channel, Screw Connection, Normally Closed Contact Output	**8965350000**
ACT20X-2HDI-2SDO-RNO-S	Dual Channel, Screw Connection, Normally Open Contact Outputs	**8965370000**
ACT20X-2HDI-2SDO-RNC-S	Dual Channel, Screw Connection, Normally Closed Contact Outputs	**8965380000**
CBX200 USB	Configuration Interface	**8978580000**



Zone 0, 1, 2, 20, 21, 22 / Cl. I/II/III, div . 1 gr. A-G

Zone 2 / FM Cl. 1, div . 2, gr. A-D or safe area

NAMUR Sensor Interface - Single and Dual Versions



Hazardous Area Digital Input / Safe Area Transistor Output

Features

- Namur or closed contact input
- 1 or 2 channel models
- Input wiring selection according to terminal numbers
- Transistor output <5kHz
- Fault relay standard
- IECEX & ATEX approval
- Installation in Zone 2
- 24Vdc supply
- 22.5mm wide housing

Description

Weidmullers ACT20X-HDI-SDO models accept Namur sensor or closed contacts in the hazardous area from Zone 0,1,2 and repeat the signal through transistor outputs in the safe area up to 5kHz. A status relay is supplied for input fault detection with LED indication on front panel providing operational status. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

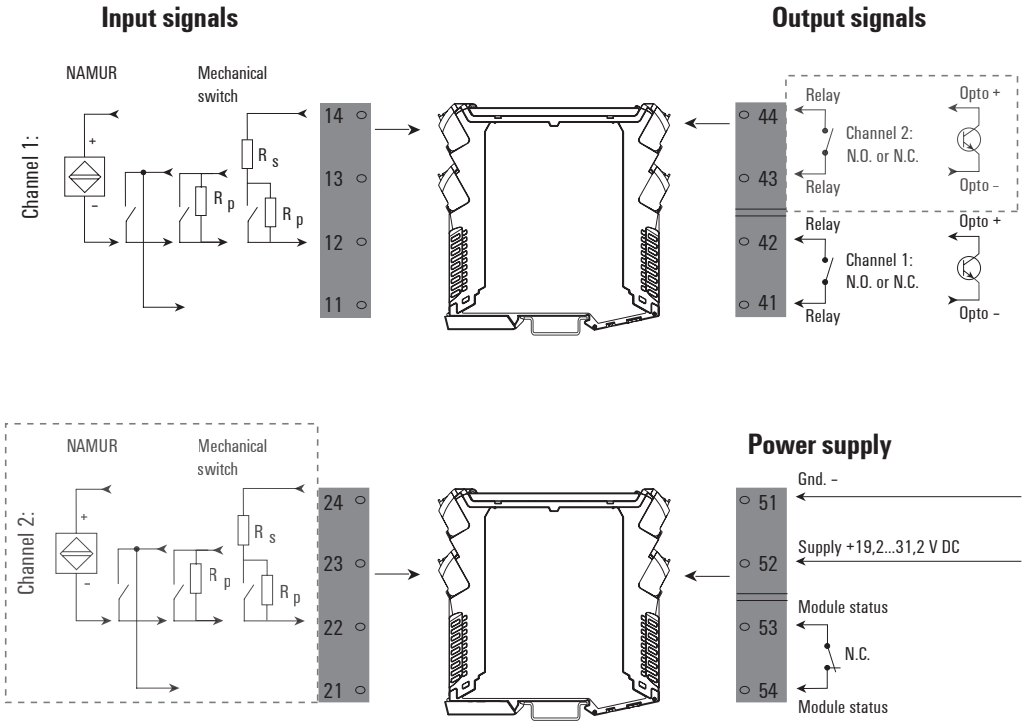
Technical Data

Inputs (Hazardous area) IECEX	Volt free conatct or Namur sensor to EN60947 acc to terminal numbers
Namur supply	8Vdc / 8mA
Input parameters	resistance : 1kΩ Pulse Duration >0.1mS resistors RS=15kΩ (Lead breakage) RP=750Ω (short Circuit)
Terminals	Channel 1: 11 - 14 Channel 2: 21-24
Outputs (Safe/ Zone 2)	NPN Transistor output
Terminals	Channel 1: 41,42 Channel 2: 43,44
Switching Frequency	<+5kHz
Rated switching Voltage	**Safe Area:** ≤30Vdc; ≤80mA (max 2.4W) 2.5V drop at max load
	Zone 2: U max=30Vdc, I max=80mA
Module status relay	Identifies Input error
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2V - 31.2Vdc ≤ 3watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95%RH (non condensing)
Protection Degree	IP20
MTBF	215 years
Insulation	300V Rated - 2.6kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx ATEX (KEMA09ATEX0168X)
IECEX: KEM09.0072X	Ex nA nC IIC T4 Gc, [Ex ia Ga] IIC/IiB/IIA, [Ex ia Da] IIIC
	Uo = 10.6 V; 10 = 12 mA; Po = 32 mW; Co = 2.0 uF (IIC) or 6.0 uF (IIB) or 18.0 uF (IIA);
	Lo = 260 mH (IIC) or 780 mH (IIB) or 1000 mH (IIA); Lo/Ro = 1150 uH/O (all groups);
	for Ex iaD, the parameters of group IIB apply.

All certificates available from www.weidmuller.com.au

Ordering Data

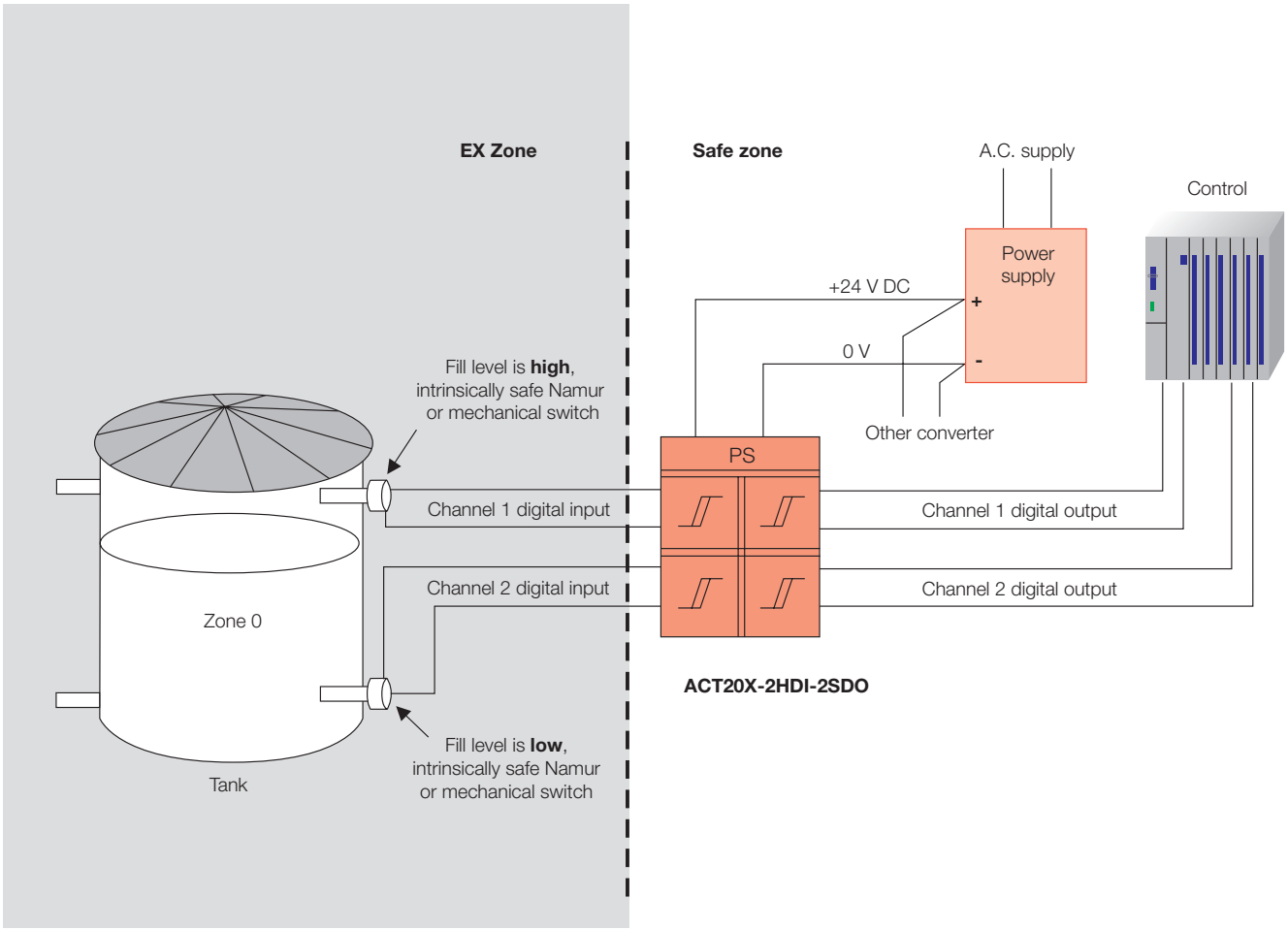
Type	Description	Order No.
ACT20X-HDI-SDO-S	Single Channel, Screw Connection, NPN Transistor Output	**8965360000**
ACT20X-2HDI-2SDO-S	Dual Channel, Screw Connection, NPN Transistor Outputs	**8965390000**
CBX200 USB	Configuration Interface	**8978580000**



Zone 0, 1, 2, 20, 21, 22 / Cl. I/II/III, div . 1 gr. A-G

Zone 2 / FM Cl. 1, div . 2, gr. A-D or safe area

NAMUR Sensor Interface - Single and Dual Versions



Safe Area Digital Input / Hazardous Area Digital Output (IIC)

Features

- IIC/IIB/IIA/IIIC
- 3 I.S output parameters per module
- Uo = 28V for older equipment
- Fault relay standard
- IECEX & ATEX approval
- Installation in Zone 2
- 24Vdc supply
- 22.5mm wide housing

Description

The ACT20X-SDI-HDO-L models provide a powered output to the hazardous area (Gas group IIC) for Zone 0,1,2 for Valves, LED's, alarms etc. The output state is derived from a logic level from the safe area. A status relay is supplied for fault detection with LED indication on front panel provides operational status. The ACT20X-SDI-HDO-L comprises a single and a dual channel model. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

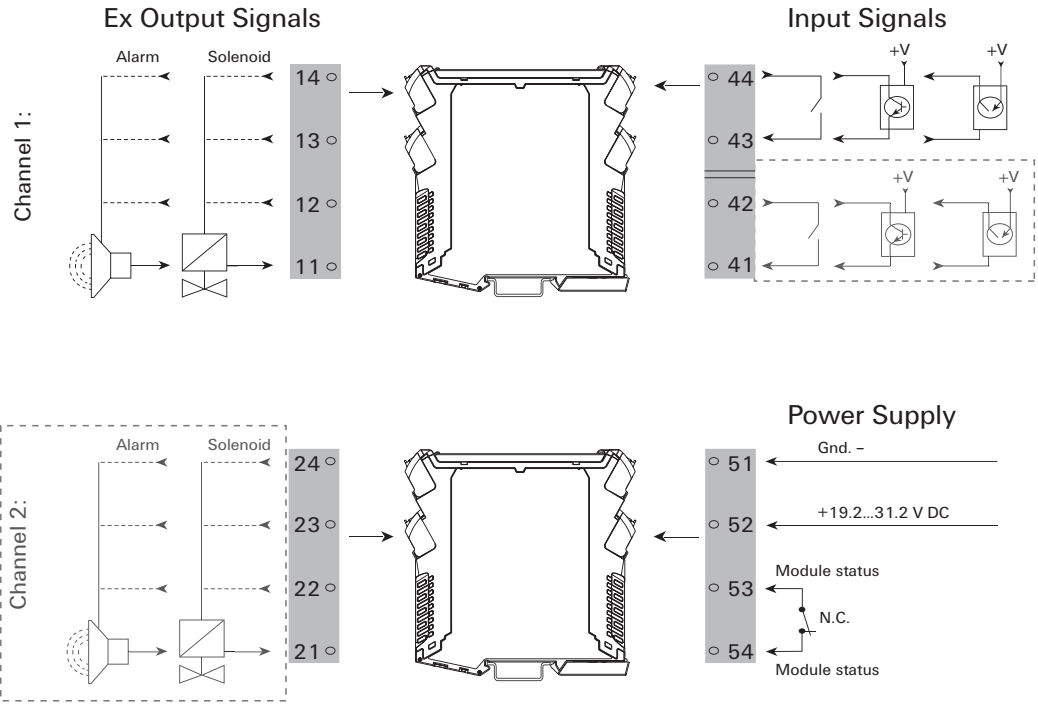
Technical Data

Inputs (Safe area)	PNP, NPN, Switching voltage
Input parameters Low level:	(NPN)≤2Vdc (PNP) ≤8Vdc
Input parameters High Level:	(NPN)>=4Vdc (PNP) >=10Vdc Max 28Vdc
Terminals	Channel 1: 41,42 Channel 2: 43,44
Outputs (Hazardous area) IECEX	3 Intrinsically safe output parameters exist on each model dependent on terminal selection 11-14 & 21 -24
Terminals	Channel 1: 11 - 14 Channel 2: 21-24
Maximum values	Uo=28V; Co=80nF (IIC) or 640nF (IIB) or 2.1uF (IIA): Ex ia IiC/IIB/IIA/IIIC
Terminals 11,12: 21,22 (304Ω)	Io=93mA; Po=0.65W; Lo=4.2mH (IIC)16.8mH (IIB) 32.6mH (IIA). Lo/Ro = 54uH/Ω (IIC) 218uH/Ω (IIB) 436uH/Ω (IIA)
Terminals 11,13: 21,23 (280Ω)	Io=100mA; Po=0.7W; Lo=3.5mH (IIC) 14.2mH (IIB) 27.6mH (IIA); Lo/Ro = 50uH/Ω (IIC) 201uH/Ω (IIB) 402uH/Ω (IIA)
Terminals 11,14: 21,24 (257Ω)	Io=110mA; Po=0.77W; Lo=2.9mH (IIC) 11.8mH (IIB) 22.8mH (IIA); Lo/Ro = 46uH/Ω (IIC) 184uH/Ω (IIB) 369uH/Ω (IIA)
Module status relay	Identifies Output error
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2V - 31.2Vdc ≤ 2watts (1 channel) ≤3.5 watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95%RH (non condensing)
Protection Degree	IP20
MTBF	175 years
Insulation	300V Rated - 2.6kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx- KEM09.0072X ATEX- KEMA10AATEX0019X FM UL DNV

All certificates available from www.weidmuller.com.au

Ordering Data

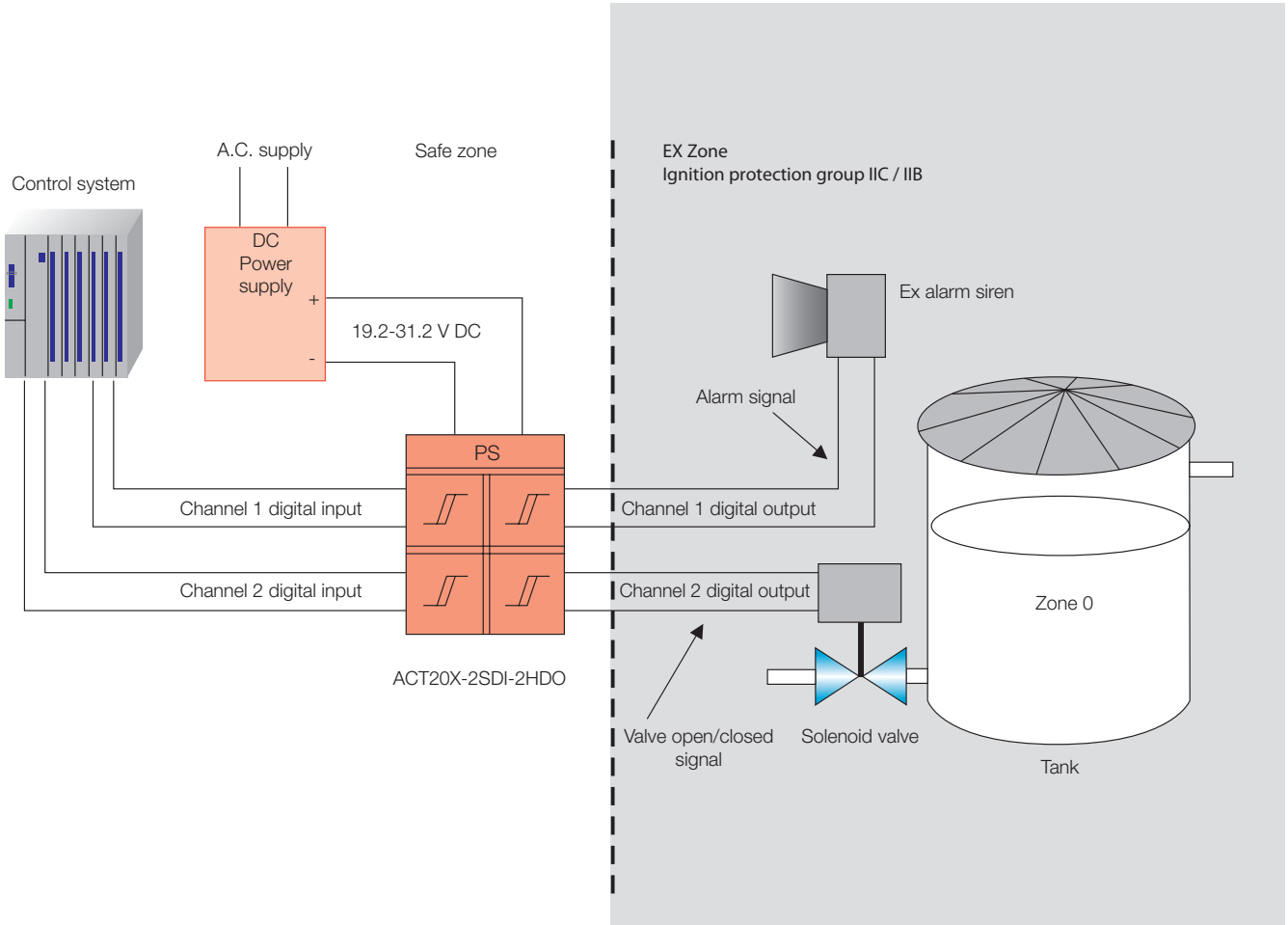
Type	Description	Order No.
ACT20X-SDI-HDO-L-S	Single Channel, Gas Group IIC (35mA) Version	**8965400000**
ACT20X-2SDI-2HDO-L-S	Dual Channel, Gas Group IIC (35mA) Version	**8965420000**
CBX200 USB	Configuration Interface	**8978580000**



Zone 0, 1, 2, 20, 21, 22 /
Cl. I/II/III, div. 1 gr. A-G

Zone 2 / Cl. 1, div. 2,
gr. A-D or safe area

Driver for Solenoid/Actuator in Hazardous area - Gas Group IIC (35mA)



Safe Area Digital Input / Hazardous Area Digital Output (IIB)

Features

- IIC/IIB/IIA/IIIC
- 3 IS output parameters per module (0.81W– 0.95W)
- Uo = 28V for older equipment
- Fault relay standard
- IECEX & ATEX approval
- Installation in Zone 2
- 24Vdc supply
- 22.5mm wide housing

Description

The ACT20X-SDI-HDO-H provides a single 65mA digital output to the hazardous area (Gas group IIB) for Zone 0,1,2 Valves, LED's, alarms etc. The output state is derived from a logic level from the safe area. A status relay is supplied for fault detection with LED indication on front panel provides operational status. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

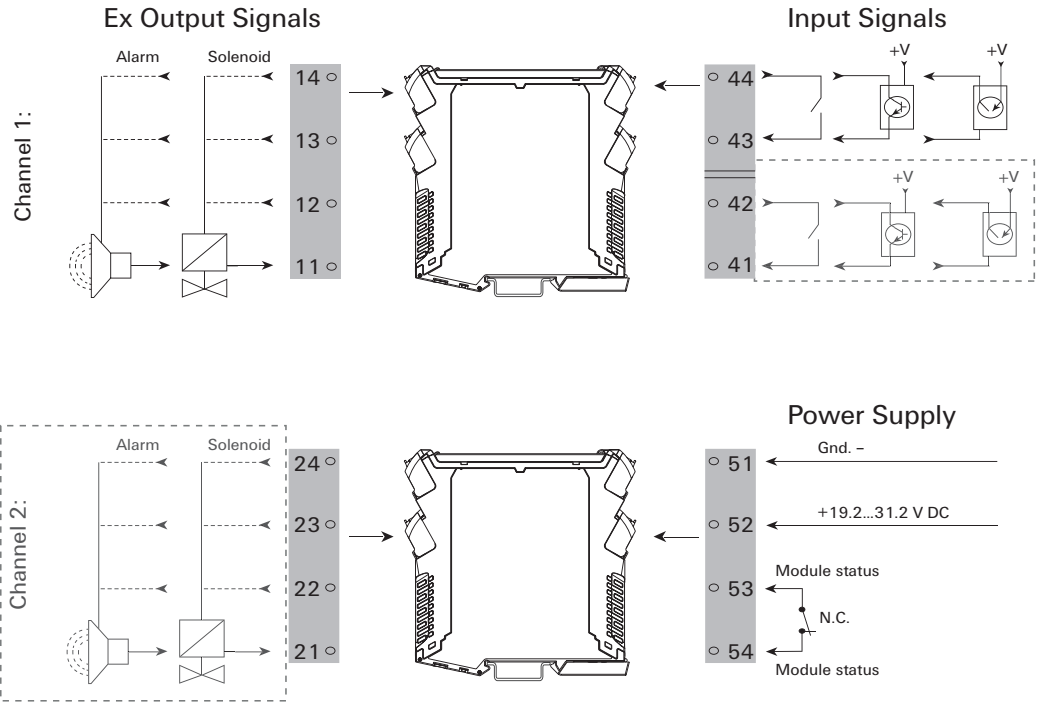
Technical Data

Inputs (Safe area)	PNP, NPN, Switching voltage
Input parameters Low level:	(NPN)≤2Vdc (PNP) ≤8Vdc
Input parameters High Level:	(NPN)>=4Vdc (PNP) >=10Vdc Max 28Vdc
Terminals	Channel 1: 41,42
Outputs (Hazardous area) IECEX	3 Intrinsically safe output parameters exist on each model dependent on terminal selection 11-14 & 21 -24
Terminals	Channel 1: 11 - 14
Maximum values	Uo=28V; Co=80nF (IIC) or 640nF (IIB) or 2.1uF (IIA): Ex ia IiC/IIB/IIA/ IIIC or Ex iaD
Terminals 11,12 ratings	Io=115mA; Po=0.81W; (Group IIC) Lo=2.69mH (IIC)10.8mH (IIB) 20.8mH (IIA). Lo/Ro = 44uH/Ω (IIC) 176uH/Ω (IIB) 353uH/Ω (IIA)
Terminals 11,13 ratings	Io=125mA; Po=0.88W; (group IIB) 9.1mH (IIB) 17.6mH (IIA); Lo/Ro = 163uH/Ω (IIB) 327uH/Ω (IIA)
Terminals 11,14 ratings	Io=135mA; Po=0.95W; (group IIB); Lo=7.8mH (IIB) 15.1mH (IIA); Lo/Ro = 150uH/Ω (IIB) 301uH/Ω (IIA)
Module status relay	Identifies Output error
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2V - 31.2Vdc ≤ 2 watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C ; Storage: -20 to +85°C 0-95%RH (non condensing)
Protection Degree	IP20
MTBF	175 years
Insulation	300V Rated - 2.6kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx- KEM09.0072X ATEX- KEMA10AATEX0019X FM UL DNV

All certificates available from www.weidmuller.com.au

Ordering Data

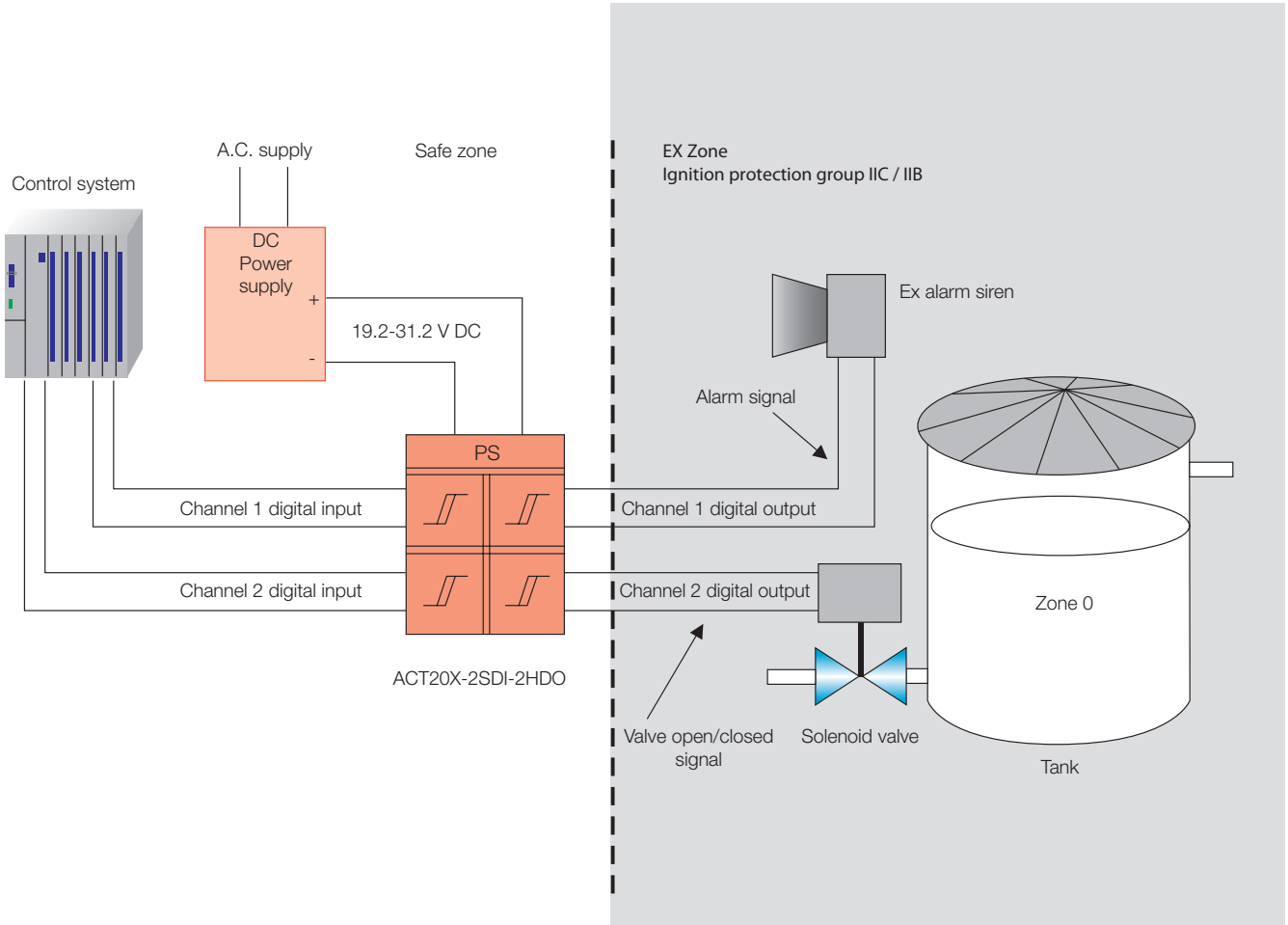
Type	Description	Order No.
ACT20X-SDI-HDO-H-S	Single Channel, Gas Group IIB (65mA) Version	**8965410000**
CBX200 USB	Configuration Interface	**8978580000**



Zone 0, 1, 2, 20, 21, 22 /
Cl. I/II/III, div. 1 gr. A-G

Zone 2 / Cl. 1, div. 2,
gr. A-D or safe area

Driver for Solenoid/Actuator in Hazardous area - Gas Group IIC (35mA) or IIB (65mA) Versions



Hazardous Area Analogue Input / Safe Area Analogue Output

Features

- IIC/IIB/IIA/IIIC
- 4-20mA input
- HART Transparent
- Transmitter supply
- IECEX & ATEX approval
- Installation in Zone 2
- PC configurable with FDT/DTM
- 22.5mm wide housing
- 24Vdc supply

Description

The ACT20X-HAI-SAO is a 4-20mA intrinsically safe isolator with a HART modem. Available in 1 or 2 channel models and are suitable for isolating active inputs from 2 wire transmitters and passive inputs from powered field devices and retransmitting the 4-20mA to the safe side with high accuracy and stability whilst allowing simultaneous HART communication. The ACT20X-HAI-SAO is programmed using the CBX200 for selecting the output range and also location, serial number and users name along with diagnostics all through the WI Manager FDT/DTM Free software. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

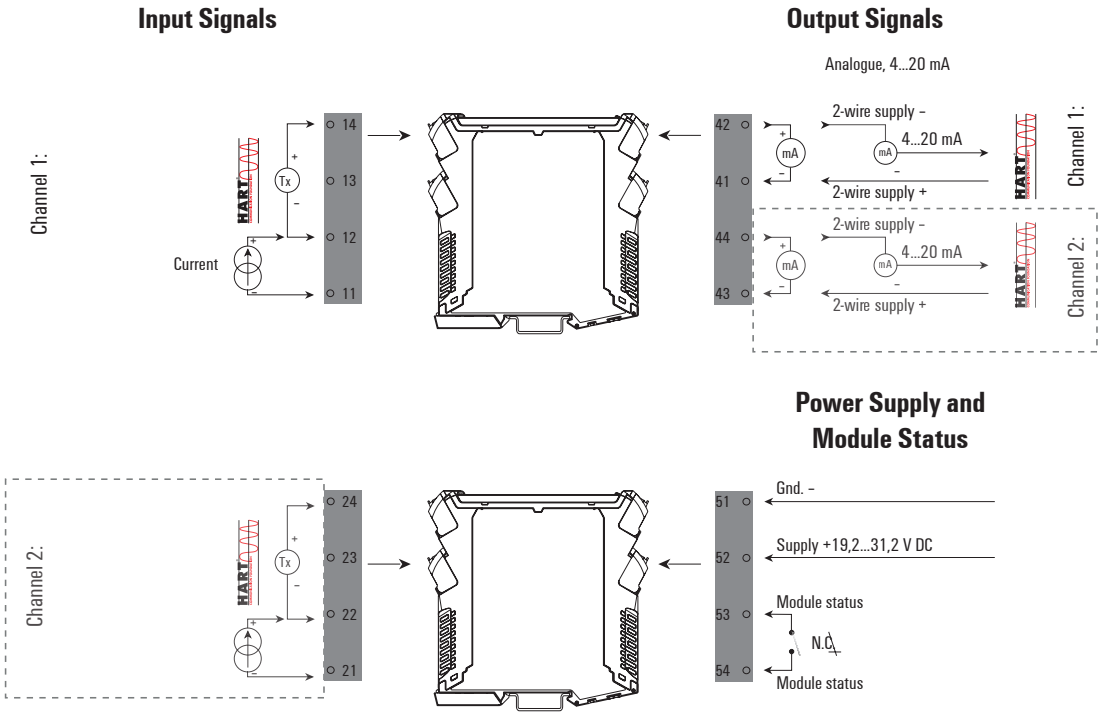
Technical Data

Inputs (Hazardous area)	Accepts active & passive 4-20mA inputs from Hazardous area
Milliamp	0(4)-20mA (Limts: 3.5-23mA)
2 wire Transmitter	Channel 1: 14+, 12- Channel 2: 24+, 22- sensor supply ≤26V
Passive input	Channel 1: 11+, 12- Channel 2: 21+, 22-
Output (Safe/ Zone 2)	3.5...23 mA into ≤600Ω load
Output ranges	4-20mA
Output Terminals	wiring for sourcing <600Ω or 2 wire loop power ≤ (Vs - 10 V) / 20 mA (current loop)
	Channel 1: 41,42 Channel 2: 43,44
Accuracy	<0.1% span
Temperature Drift	< 0.01% of span/°C
Step Response	≤5ms
Module status relay	Alarm sensor error
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2 - 31.2Vdc ≤ 3 watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95% RH (non condensing)
Protection Degree	IP20
Insulation	300V Rated - 2.0kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx ATEX (DEKRA11ATEX0131X) UL
IECEx:DEK 11.0050 X issue 0	Ex nA IIC T4 Gc, [Ex ia Ga] I/IIC/IIB/IIA, [Ex ia Da] IIIC
Loop Current:terminals 13,14; 23,24	Uo=28V; Io=93mA; Po=0.65W; Co=0.08uF (IIC); 0.6uF (IIB); 2.15uF (IIA)
Current Input: terminal 11,12; 21,22	Ui=30V; Ii=120mA; Pi=0.85W; Ci=2nF;Li=0uH; Uo=0V; Io=0mA; Po=0mW

All certificates available from www.weidmuller.com.au

Ordering Data

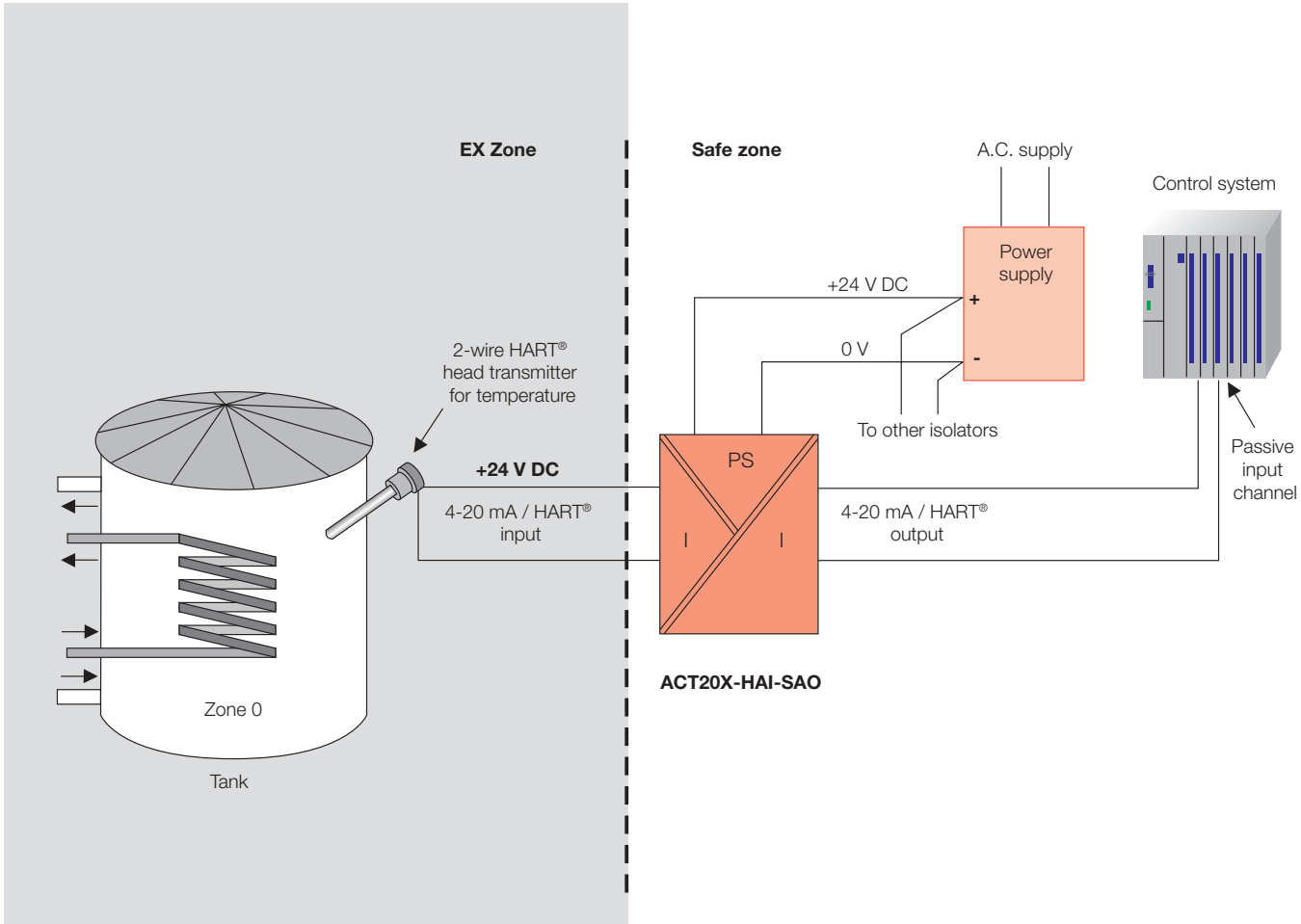
Type	Description	Order No.
ACT20X-HAI-SAO-S	Single Channel version	**8965430000**
ACT20X-2HAI-2SAO-S	Dual Channel version	**8965440000**
CBX200 USB	Configuration Interface	**8978580000**



Zone 0, 1, 2, 20, 21, 22 / Cl. I/II/III, div . 1 gr. A-G

Zone 2 / FM Cl. 1, div . 2, gr. A-D or safe area

Isolators for Signal Current from the Hazardous area - Single and Dual Versions



Safe Area Analogue Input / Hazardous Area Analogue Output

Features

- IIC/IIB/IIA/IIIC
- 4-20mA output
- HART Transparent
- Sensor fail standard
- IECEX & ATEX approval
- Installation in Zone 2
- PC configurable with FDT/DTM
- 22.5mm wide housing
- 24Vdc supply

Description

The ACT20X-SAI-HAO is a 4-20mA intrinsically safe isolator with a HART modem. Available in 1 or 2 channel models, are suitable for isolating 4-20mA from the safe area and retransmitting to the hazardous area for controlling valves, I-P converters etc and simultaneous HART communication. The ACT20X-SAI-HAO is programmed using the CBX200 for selecting the output range and also location, serial number and users name along with diagnostics all through the WI Manager FDT/DTM Free software. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

Technical Data

Inputs (Safe area)	Accepts active & passive 4-20mA inputs
Milliamp	0(4)-20mA (Limts: 3.5-23mA)
Terminals	Channel 1: 42+, 41- Channel 2: 44+, 43-
Output (Hazardous Area)	3.5...23 mA into ≤600Ω load
output ranges	4-20mA
Output Terminals	Channel 1: 11,12 Channel 2: 21,22
Accuracy	<0.01% span/100 Ω
Module status relay	Alarm sensor error
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2 - 31.2Vdc ≤ 3 watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95% RH (non condensing)
Protection Degree	IP20
Insulation	300V Rated - 2.0kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx ATEX (DEKRA11ATEX0164X) UL
IECEx: DEK 11.0059 X, issue 0	Ex nA IIC T4 Gc, [Ex ia Ga] I/IIC/IIB/IIA, [Ex ia Da] IIIC
	Loop supply terminals 11,12 resp terminals 21,22 Ex ia IiC/IIB/IIA
	Uo=28V; Io=93mA; Po=0.65W; Co=0.08uF (IIC); 0.65uF (IIB); 2.15uF (IIA); Lo=4mH (IIC); 16mH (IIB); 32mH (IIA)

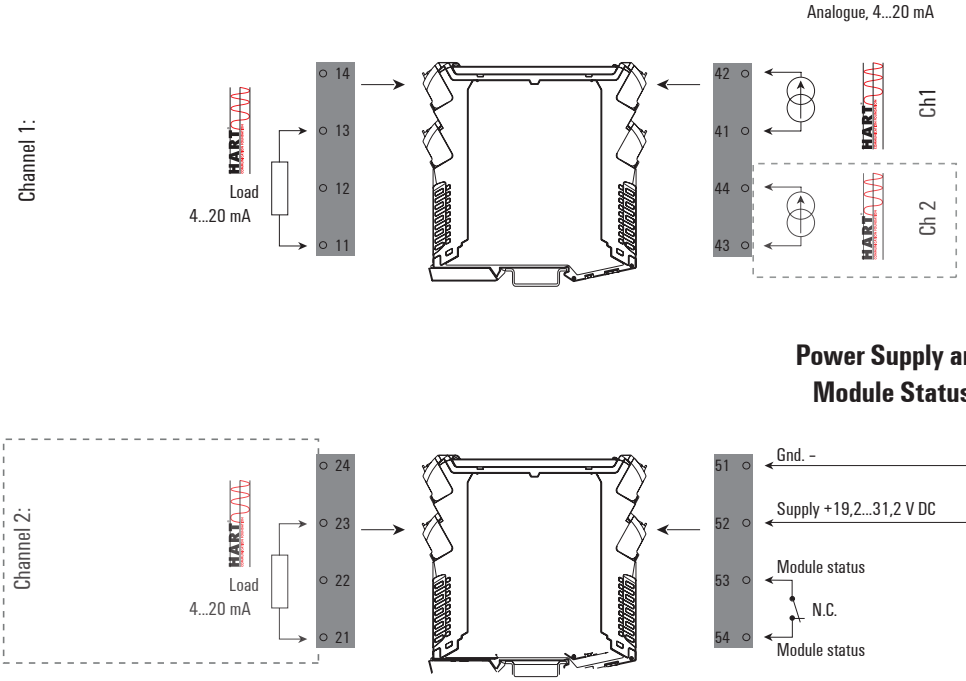
All certificates available from www.weidmuller.com.au

Ordering Data

Type	Description	Order No.
ACT20X-SAI-HAO-S	Single Channel	**8965450000**
ACT20X-2SAI-2HAO-S	Dual Channel	**8965460000**
CBX200 USB	Configuration Interface	**8978580000**

Ex Output signals

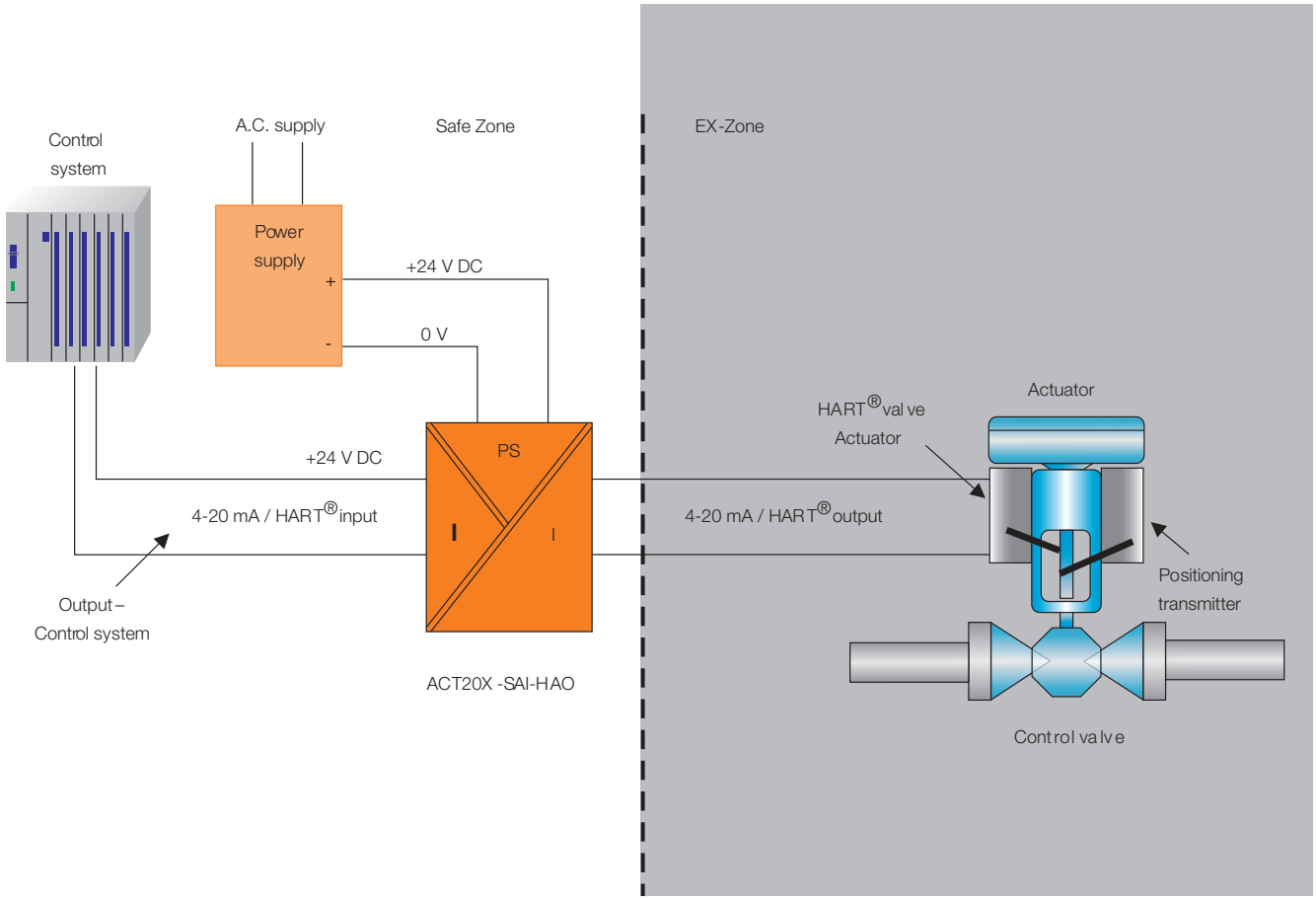
Input signals



Zone 0, 1, 2, 20, 21, 22 / Cl. I/II/III, div . 1 gr. A-G

Zone 2 / FM Cl. 1, div . 2, gr. A-D or safe area

Isolators for Control Currents to the Hazardous area - Single and Dual Versions



Hazardous Area Universal Input / Safe Area Loop Powered Output

Features

- I/IIC/IIB/IIA/IIIC
- Universal Input
- 2 wire Output Loop Powered
- RTD, Tc, mV, V, mA, Ω, Pot
- IECEX & ATEX approval
- Installation in Zone 2
- -20°C to +60°C operation
- 12.5mm wide housing
- PC configurable with FDT/DTM

Description

The ACT20X-HUI-SAO-LP is a 4-20mA output loop powered intrinsically safe isolator with a universal input accepting RTD's, Thermocouples, mV, V, mA, resistance and potentiometers. All ranges have a small minimum span with great accuracy and repeatability. The HUI-SAO-LP is programmed using the CBX200 for selecting the input type, range, output linearity and also location, serial number and users name along with diagnostics all through the WI Manager FDT/DTM Free software. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

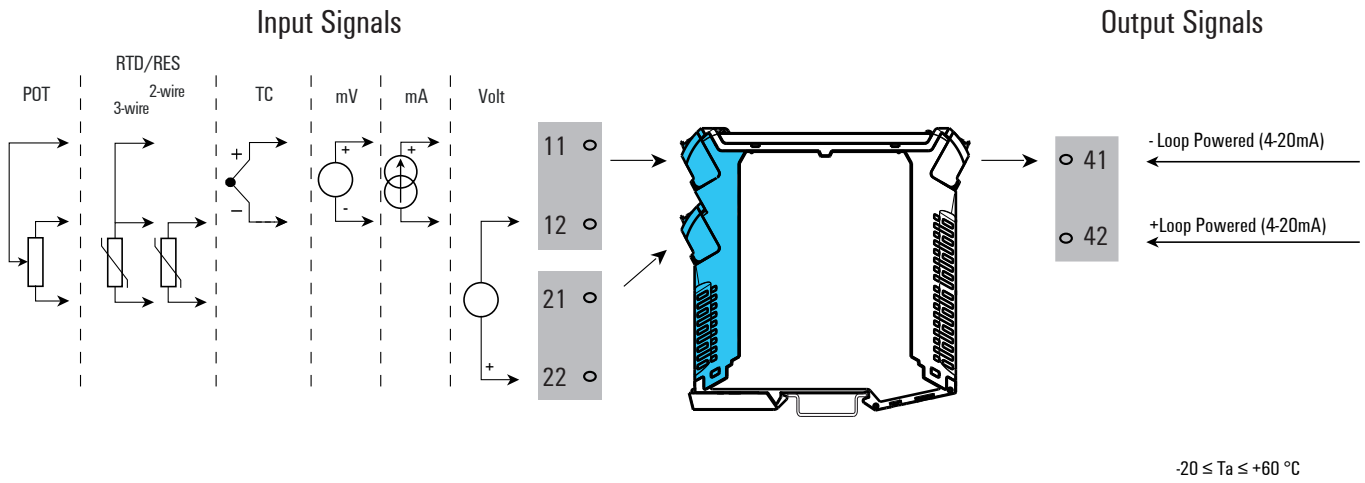
Technical Data

Inputs (Hazardous area)	Accepts passive analogue inputs from Hazardous area
RTD	Pt100, Pt200, Pt1000, Ni20, CU10 in 2 & 3 wire connection (max 5Ω per wire)
Thermocouples	B, E, J, K, L, N, R, S, T, U (or user defined 101 points)
Milliamp	Plus & minus 25mA, minimum span 1mA
mV, Volts	Plus & minus 150mV, 600mV, 12V, or 28Vdc
Resistance 2w, 3w	0- 12kΩ
Potentiometer	1.2kΩ to 500kΩ end to end resistance
Input Terminals	11, 12, 21, 22
Output (Safe/ Zone 2)	4-20mA loop powered into ≤700Ω load
Output Terminals	42: 24V+ 41: 4 -20mA return
Accuracy	<0.05% span
Temperature Drift	< 0.02% of span/°C
Step Response	400ms (10-90%)
Power supply	11-28Vdc loop powered ≤ 3watts (2 channels) terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +70°C 10-90% RH (non condensing)
Protection Degree	IP20
Insulation	300V Rated - 2.0kV Input / Output
Dimensions mm	L= 117.2 W= 12.5 H= 113.6
Weight	160 g
Ex Data	IECEx ATEX UL
IECEX: ITA 11.0002X	Ex nA IIC T4 Gc, [Ex ia Ga] I/IIC/IIB/IIA, [Ex ia Da] IIIC
Terminal 21 & 12	Uo 5.88V; Io 3.1mA; Po 4.6mW; Ci 0.001uF; Li neg mH
Terminal 22 & 12	Uo 5.88V; Io 0.003mA; Po <1.0mW; Ci 0.001uF; Li neg mH
Terminal 11 & 12	Uo 5.88V; Io 79.2mA; Po 116.4mW; Ci 0.001uF; Li neg mH
Terminal 21,22 & 11,12	Uo 5.88V; Io 82.3mA; Po 121mW; Ci 0.003uF; Li neg mH

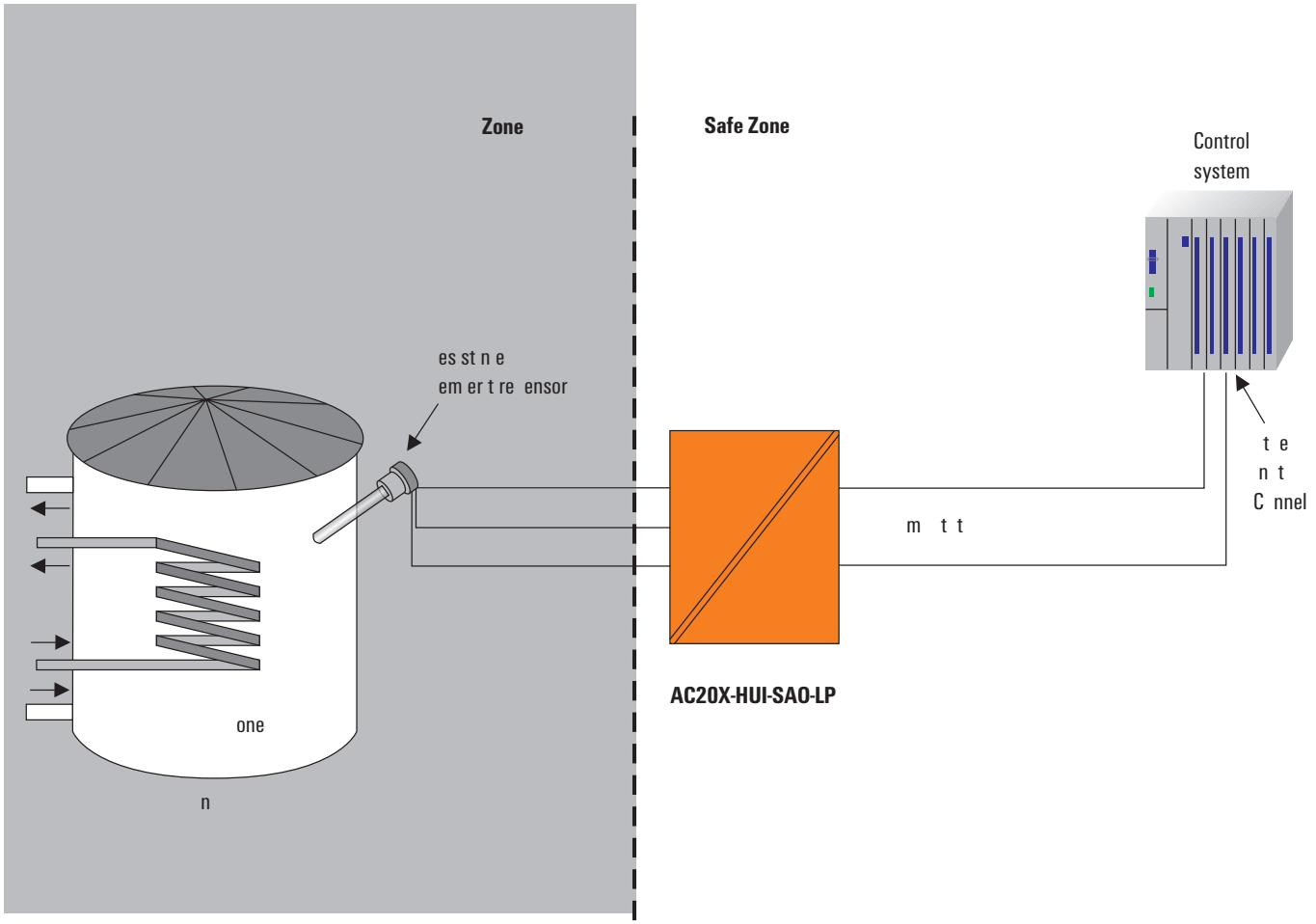
All certificates available from www.weidmuller.com.au

Ordering Data

Type	Description	Order No.
ACT20X-HUI-SAO-LP-S	Universal Hazardous Area Signal Converter/Isolator - loop Powered	**1318220000**
CBX200 USB	Configuration Interface	**8978580000**



Universal Hazardous Area Signal Converter/Isolator - Output Loop Powered



Hazardous Area Universal Input / Safe Area Analogue Output

Features

- IIC/IIB/IIA/IIIC
- Universal Input
- RTD, Tc, mV, V, mA, Ω, Pot
- IECEX & ATEX approval
- Installation in Zone 2
- -20°C to +60°C operation
- 22.5mm wide housing
- PC configurable with FDT/DTM
- 24Vdc power supply

Description

The ACT20X-HUI-SAO 24Vdc powered intrinsically safe isolator with a universal input accepting RTD's, Thermocouples, mV, V, mA, resistance and potentiometers. All ranges have a small minimum span with great accuracy and repeatability. The HUI-SAO is programmed using the CBX200 for selecting the input type, range, output linearity and also location, serial number and users name along with diagnostics all through the WI Manager FDT/DTM Free software. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

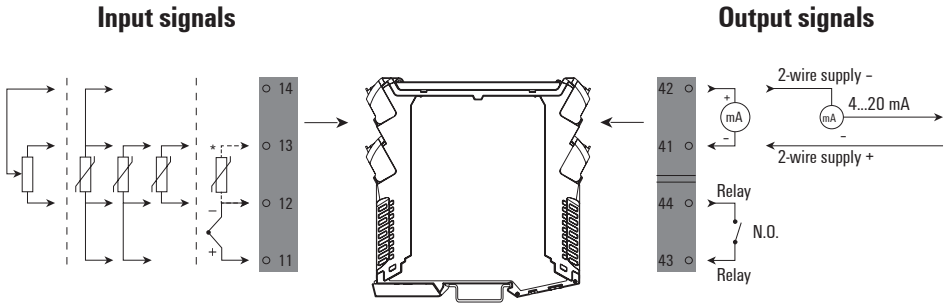
Technical Data

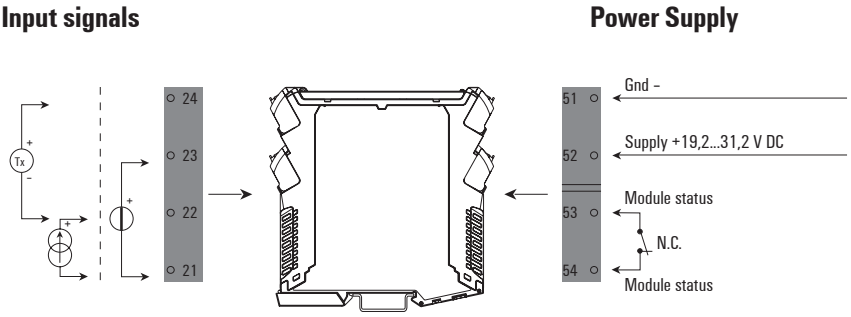
Inputs (Hazardous area)	Accepts active & passive analogue inputs from Hazardous area
RTD	Pt10, Pt20, Pt50, Pt100, Pt250, Pt300, Pt400, Pt500, Pt1000, Ni50, Ni100, Ni120, Ni1000
Thermocouples	B, E, J, K, N, R, S, T,. L and U in acc with DIN 43710
Milliamp	0(4)-20mA (Limts: 0-23mA) sensor supply ≤26V
Volts	0-1, 0.2-1, 0-5, 0-10, 2-10V
Input Terminals	11 - 14, 21-24
Output (Safe/ Zone 2)	0...23 mA into ≤600Ω load
output ranges	configurable: 0...20 / 4...20 / 20...0 / 20...4 mA
Output Terminals	41,42 wiring for sourcing <600Ω or 2 wire loop power ≤ (Vs - 10 V) / 20 mA (current loop)
Accuracy	<0.05% span
Temperature Drift	< 0.02% of span/°C
Step Response	400ms (10-90%)
Module status relay	Alarm on Power, sensor error or threshhold alarm (selectable via FDT/ DTM)
Rated switching Voltage	**Safe Area:** ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2 - 31.2Vdc ≤ 3.5watts terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95% RH (non condensing)
Protection Degree	IP20
MTBF	74 years
Insulation	300V Rated - 2.0kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx ATEX (KEMA10ATEX0071X) UL
IECEx: KEM 10.0034X issue 0	Ex nA IIC T4 Gc, [Ex ia Ga] I/IIC/IIB/IIA, [Ex ia Da] IIIC
	Please see approval for all values

All certificates available from www.weidmuller.com.au

Ordering Data

Type	Description	Order No.
ACT20X-HUI-SAO-S	Universal Hazardous Area Signal Converter/Isolator - Auxiliary Powered	**8965490000**
CBX200 USB	Configuration Interface	**8978580000**

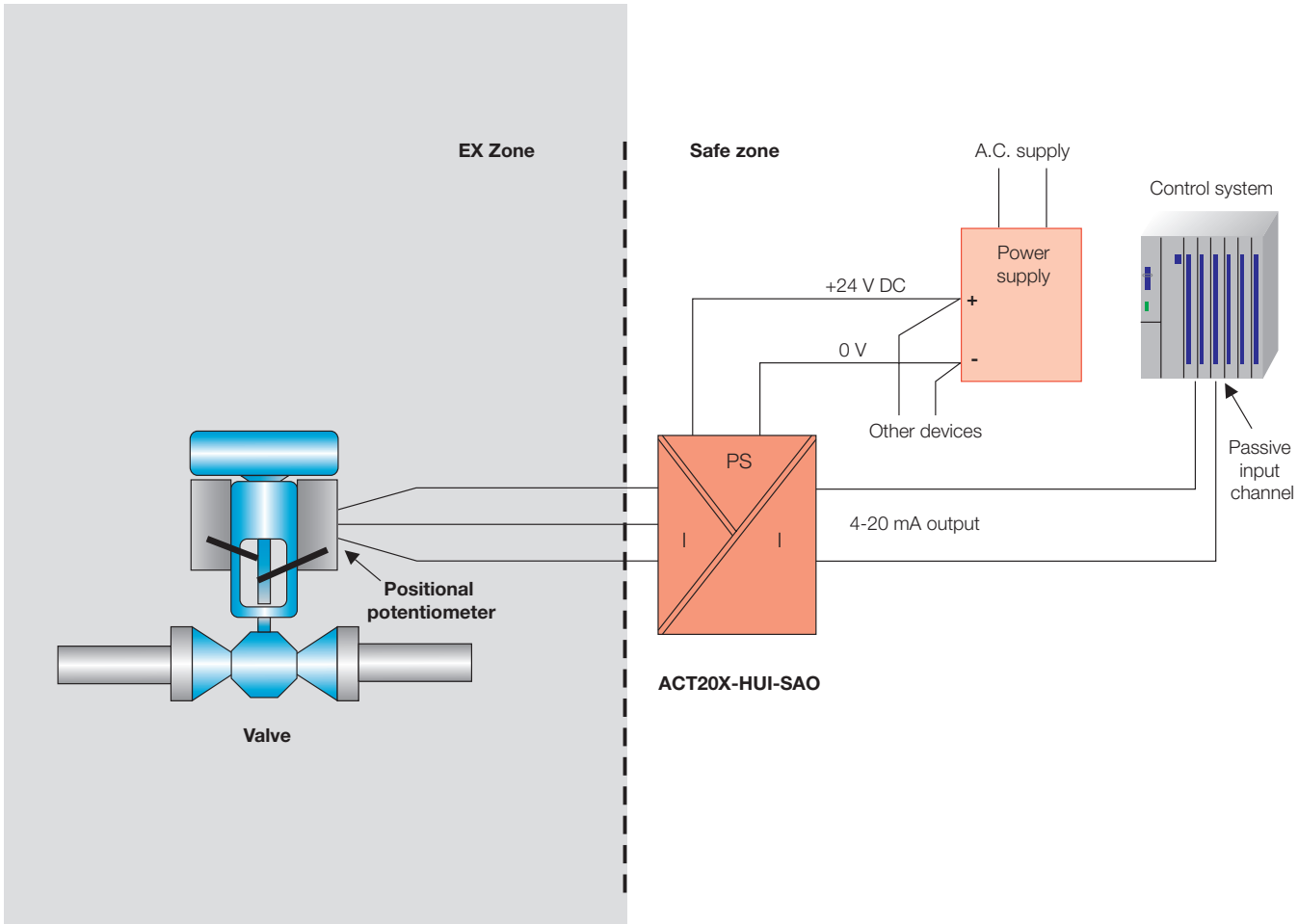




Zone 0, 1, 2, 20, 21, 22 / Cl. I/II/III, div. 1 gr. A-G

Zone 2 / FM Cl. 1, div. 2, div. A-D or safe area

Universal Hazardous Area Signal Converter/Isolator - Auxiliary Powered



Hazardous Area Temperature Input / Safe Area Analogue Output

Features

- IIC/IIB/IIA/IIIC
- mA, RTD, Thermocouples
- IECEX & ATEX approval
- Fault relay standard
- Installation in Zone 2
- -20°C to +60°C operation
- 22.5mm wide housing
- PC configurable with FDT/DTM
- 24Vdc power supply

Description

The ACT20X-HTI-SAO is 24vdc powered intrinsically safe isolator accepting RTD's, Thermocouples, and mA from the hazardous area and converts to 4-20mA on the safe side. The HTI-SAO is programmed using the CBX200 and WI Manager FDT/DTM Free software for selecting the input type, range, output and also location, serial number and users name along with diagnostics. All Terminals have guided entry with lever action for removal, providing a secure connection under all conditions including vibration.

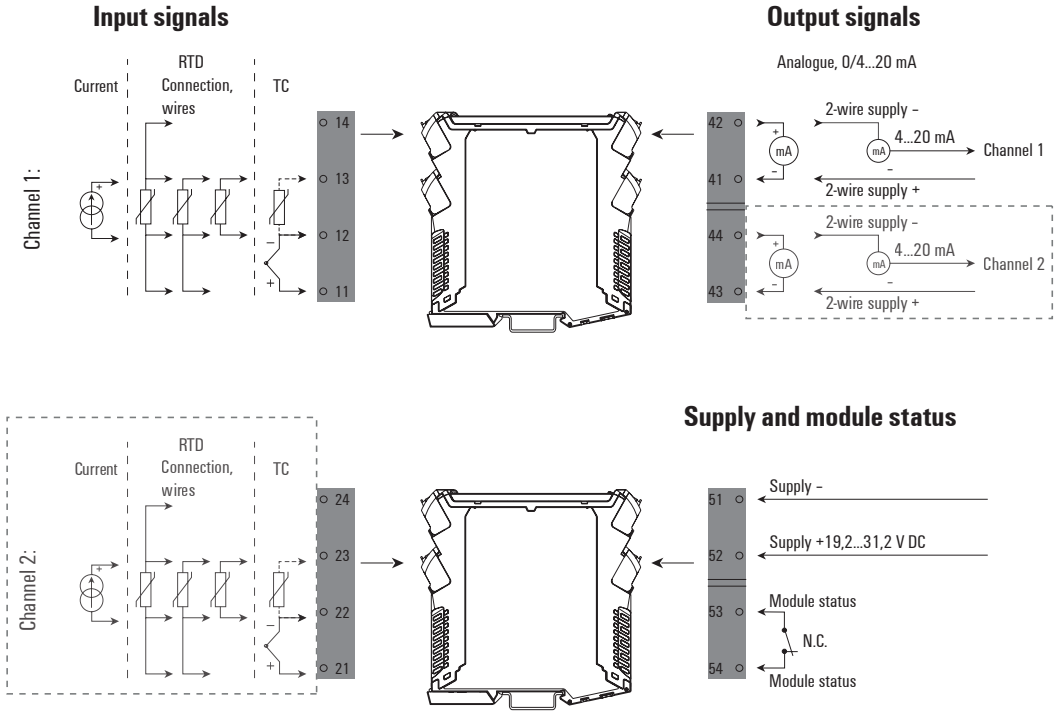
Technical Data

Inputs (Hazardous area)	Accepts passive analogue inputs from Hazardous area
RTD	Pt10, Pt20, Pt50, Pt100, Pt250, Pt300, Pt400, Pt500, Pt1000, Ni50, Ni100, Ni120, Ni1000
Thermocouples	B, E, J, K, N, R, S, T,. L and U in acc with DIN 43710
Milliamp	0(4)-20mA (Limts: 0-23mA)
Input Terminals	Channel 1: 11 - 14 Channel 2: 21-24
Output (Safe/ Zone 2)	3.8...20.5 mA ,0-20.5mA into ≤600Ω load
Output ranges	configurable: 0...20 / 4...20 / 20...0 / 20...4 mA
Output Terminals	Channel 1: 41,42 Channel 2: 43,44 wiring for sourcing <600Ω or 2 wire loop power ≤ (Vs - 10 V) / 20 mA (current loop)
Accuracy	<0.01% span
Influence of load resistance	<0.01%/ 100Ω
Step Response	400ms (10-90%)
Module status relay	Alarm on sensor error
Rated switching Voltage	Safe Area: ≤125Vac/ 110Vdc ≤62.5VA/32W ≤0.5A AC/ 0.3ADC
	Zone 2: ≤32Vac / 32Vdc ≤16VA / 32W ≤0.5A AC/ 1ADC
Power supply	19.2 - 31.2Vdc ≤ 3.5watts terminals 51-, 52+
Temperature Rating	Operational: -20 to +60°C Storage: -20 to +85°C 0-95% RH (non condensing)
Protection Degree	IP20
MTBF	111 years
Insulation	300V Rated - 2.0kV Input / Output
Dimensions mm	L= 117.2 W= 22.5 H= 113.6
Weight	182 g
Ex Data	IECEx ATEX (KEMA10ATEX0020X) UL
IECEx: KEM 09.0092x	Ex nA IIC T4 Gc, [Ex ia Ga] I/IIC/IIB/IIA, [Ex ia Da] IIIC
	Sensor terminals 11-14 and 21-24 respectively Ex ia IIC/IIB/IIA or Ex iaD with the following Max values
	Uo=8.7V; Io=18.4mA; Po=40mW; Co=5uF (IIC) 50uF (IIB) 1000uF (IIA);
	Lo=100mH (IIC) or 250mH (IIB) or 600mH (IIA); Lo/Ro=445uH/Ω (all groups)
	Ui=10V; Ii=30mA; Ci=30nF; Li=820nH
	values for combined inputs available. Please see approval data

All certificates available from www.weidmuller.com.au

Ordering Data

Type	Description	Order No.
ACT20X-HTI-SAO-S	Single Channel	**8965470000**
ACT20X-2HTI-2SAO-S	Dual Channel	**8965480000**
ACT20X-CJC-HTI-S PRT 11	Cold Junction Compensating terminal blocks for channel one	**1160640000**
ACT20X-CJC-HTI-S PRT 21	Cold Junction Compensation terminal blocks for channel two	**1160650000**
CBX200 USB	Configuration Interface	**8978580000**



Zone 0, 1, 2, 20, 21, 22 / Cl. I/II/III, div . 1 gr. A-G

Zone 2 / FM Cl. 1, div . 2, gr. A-D or safe areal

Isolators for Temperature Measurements in the Hazardous area - Single and Dual Versions