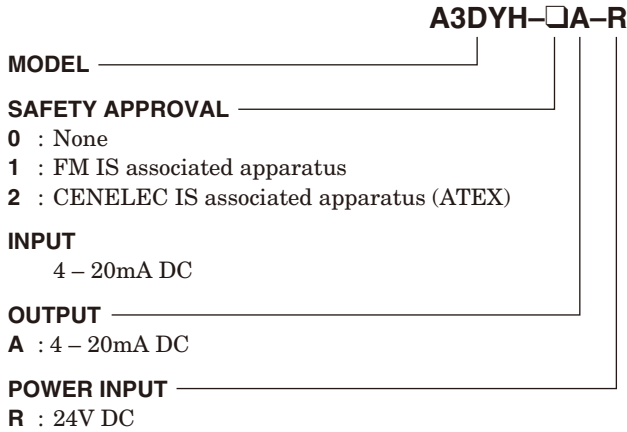


CURRENT LOOP SUPPLY
(applicable to HART signal)

MODEL **A3DYH**

MODEL & SUFFIX CODE SELECTION



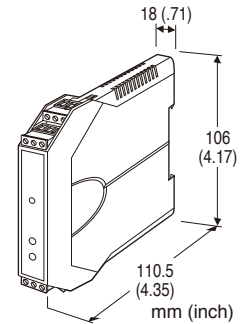
ORDERING INFORMATION

Specify code number. For the safety approval code 2, specify the product's destination country using Ordering Information Sheet (No. ESU-5971).

- Code number (e.g. A3DYH-0A-R)

GENERAL SPECIFICATIONS

Connection: Removable terminal block
Housing material: Flame-resistant resin (grey)
Isolation: Input to output to power
Overrange output: Approx. -10 – +110%
Zero/span adjustments: ±2% (front)
Power indicator LED: Green LED turns on while the power is supplied.



Functions & Features

- Powers a 4 – 20mA DC current loop
- Isolated intrinsically safe associated apparatus: no need of grounding
- Isolates and relays HART signals bidirectionally
- Shortcircuit protection
- Power LED

Typical Applications

- 2-wire smart transmitters (HART communication)

INPUT & OUTPUT

■ **SUPPLY OUTPUT*** (across the terminals 1 – 2, 4 – 5)
Output voltage: Approx. 22V DC with no load
 14V DC minimum at 20mA

Current rating: 22mA DC maximum
 *A loop-powered device (e.g. indicator) through which the A3DYH supplies excitation voltage to a two-wire transmitter causes a certain voltage drop. Be sure that the voltage after the drop remains within the transmitter's operating range.

• **Shortcircuit Protection**
Current limited: 30mA maximum
Protected time duration: No limit

■ **INPUT:** Input resistor incorporated.
 Approx. 330Ω as two-wire transmitter excitation supply (≥2W); approx. 45Ω as isolator with 4 – 20mA input (≥0.25W)

■ **OUTPUT SIGNAL:** 4 – 20mA DC
Load resistance: 550 maximum (230 minimum required for HART communication)

HART COMMUNICATION

Frequency band: 500 Hz – 5 kHz (within -3 dB)
Communication directions: Bidirectional

INSTALLATION

Power input: Operational voltage range 24V DC $\pm 10\%$;
 approx. 3W; ripple 10% p-p max.
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 0 to 95% RH (non-condensing)
Mounting: DIN rail
Dimensions: W18×H106×D110.5 mm (0.71"×4.17"×4.35")
Weight: 130 g (0.29 lbs)

PERFORMANCE

Accuracy: $\pm 0.1\%$
Temp. coefficient: $\pm 0.015\%/^{\circ}\text{C}$ ($\pm 0.008\%/^{\circ}\text{F}$)
Response time: ≤ 0.1 second (0 – 90%)
Line voltage effect: $\pm 0.1\%$ over voltage range
Insulation resistance: $\geq 100\text{M}\Omega$ with 500V DC
Dielectric strength: 1500V AC @1 minute
 (input to output or power to ground)
 500V @1 minute (output to power)

STANDARDS & APPROVALS

CE conformity: ATEX Directive (94/9/EC)
 Ex ia EN 50020
 EMC Directive (2004/108/EC)
 EMI EN 61000-6-4
 EMS EN 61000-6-2

Safety approval

FM: Intrinsic safety associated apparatus
 Class I, Div. 1, Groups A, B, C and D
 Class II, Div. 1, Groups E, F and G
 Class III, Div. 1
 Class I, Zone 0, [AEx ia] IIC
 (Class 3610)
 CENELEC: Intrinsic safety associated apparatus (ATEX)
 Ⓢ II (1)G, [Ex ia] IIC
 (EN 50020 : 2002)

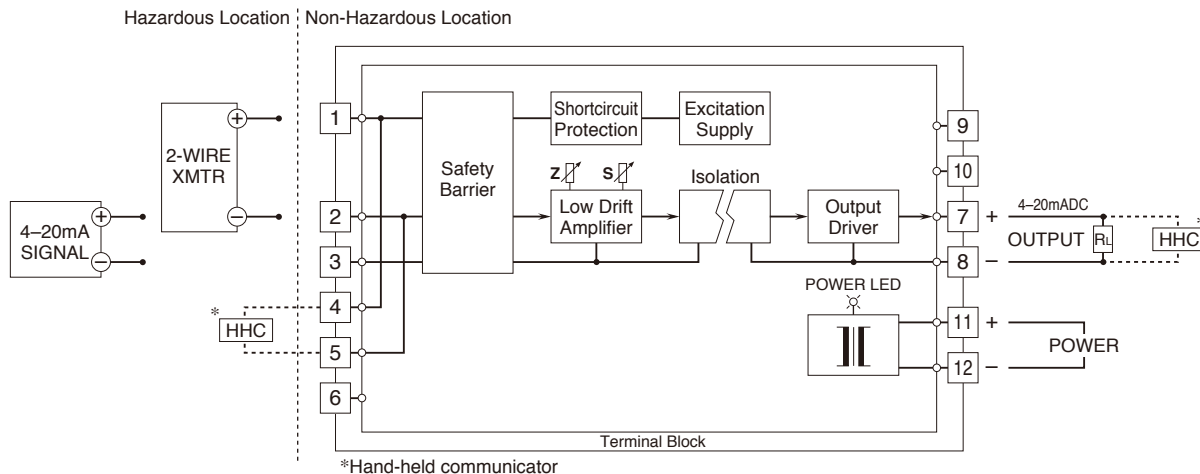
SAFETY PARAMETERS**■ FM**

Terminal No.	Voltages, Currents and Powers	Group (NEC 500)	Group (NEC 505)	Ca (Co) [μF]	LA (Lo) [mH]	La/Ra (Lo/Ro) [$\mu\text{H}/\Omega$]
1 or 4 to 2, 3 or 5	Voc (Uo) = 27.5V Isc (Io) = 93mA Po = 640mW	A or B	IIC	0.075	4	54
		C or E	IIB	0.650	16.2	220
		D, F or G	IIA	2.150	32.5	442
2 or 5 to 3	Voc (Uo) = 1.1V Isc (Io) = 45mA Po = 13mW	A, B, C, D, E, F or G	IIC, IIB or IIA	100	18	---
7 to 8 and 11 to 12	Um = 250V rms	---				

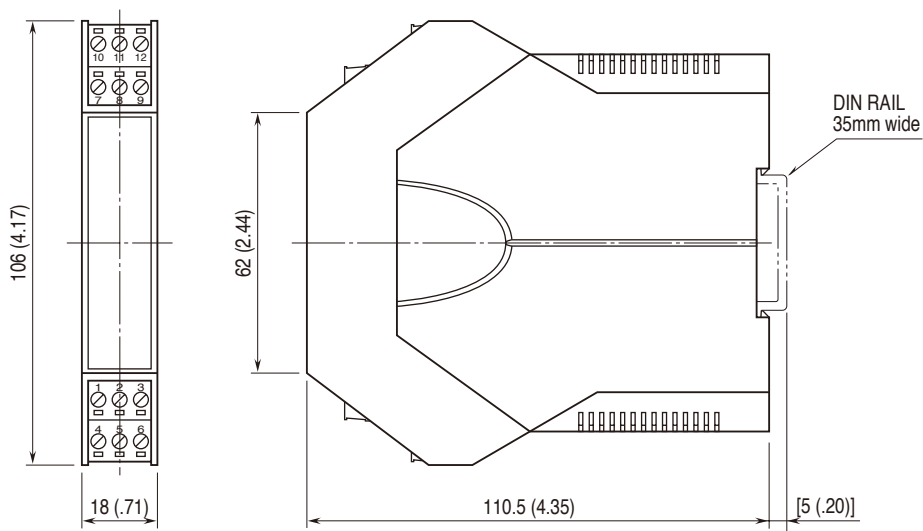
■ CENELEC (ATEX)

Terminal No.	Voltages, Currents and Powers	Group	Co [μF]	Lo [mH]	Lo/Ro [$\mu\text{H}/\Omega$]	Ci [μF]	Li [mH]
1 or 4 to 2, 3 or 5	Uo = 27.5V Io = 93mA Po = 640mW	IIC	0.075	4	54	---	---
		IIB	0.650	16.2	220	---	---
		IIA	2.150	32.5	442	---	---
2 or 5 to 3	Uo = 1.1V Io = 45mA Po = 13mW	IIC, IIB or IIA	100	17.5	---	---	---
		IIC, IIB or IIA	---	---	---	0	0
7 to 8 and 11 to 12	Um = 250V rms	---					

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



• When mounting, no extra space is needed between units.