

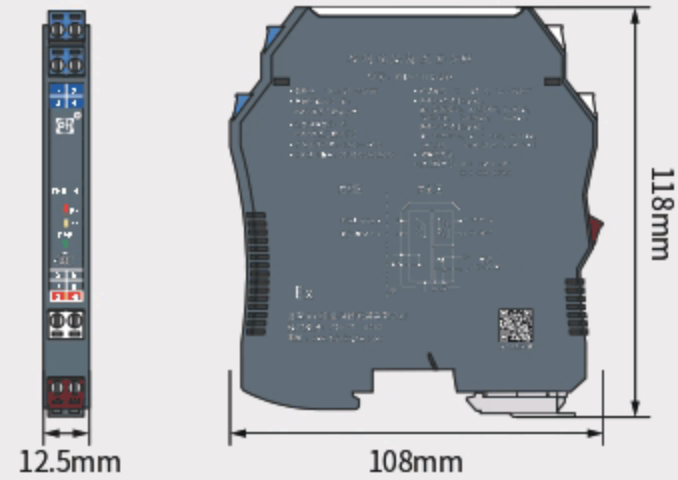
Communication signal input isolated safety barrier

PHD-11TC-33+

1 input 1 output

Input: RS-485 Half Duplex Digital Signal

Output: RS-485 Half Duplex Digital Signal



Overview

The communication signal of PHD-11TC-33+ with surge protection function is input into the isolated safety barrier, which can realize the two-way communication of RS-485 Half Duplex digital signal in the dangerous area and the safe area.

This product needs independent power supply, and the power supply, input and output are isolated.

Specifications

Input in hazardous area:

Input signal: RS-485 Half Duplex Digital Signal

Safety side output:

Output signal: RS-485 Half Duplex Digital Signal

Transmission delay: $\leq 10\mu s$

Transmission rate: $\leq 115.2\text{kbps}$

Surge protection features:

Nominal discharge current $I_n(8/20\mu s)$: 5kA

Voltage protection level $U_p(8/20\mu s)$: 60V(line to line)

Voltage protection level $U_p(8/20\mu s)$: 600V(line to ground)

According to standards: GB/T18802.21-2016
(equivalent to IEC61643-21:2012)

Basic parameters:

Supply voltage: 20~35V DC

Power consumption: $\leq 40\text{mA}$ (24V power supply)

LED indicator:

Green: Power indicator

Yellow: Signal transmission from safety zone to hazardous zone

Red: Signal transmission from hazardous zone to safety zone

Receiving and transmitting switching time: $\geq 20\text{ms}$

Temperature parameters: Working temperature: $-20^\circ\text{C} \sim +60^\circ\text{C}$
storage temperature: $-40^\circ\text{C} \sim +80^\circ\text{C}$

Relative humidity: 10%~95% RH no condensation

Insulation strength: Between intrinsically safe side and non-intrinsically safe side ($\geq 3000\text{VAC/min}$); between power supply and non-intrinsically safe side ($\geq 1500\text{VAC/min}$)

Insulation resistance: $\geq 100\text{M}\Omega$ (between input/output/power supply)

EMC: According to IEC 61326-1(GB/T 18268), IEC 61326-3-1

MTBF: 100000h

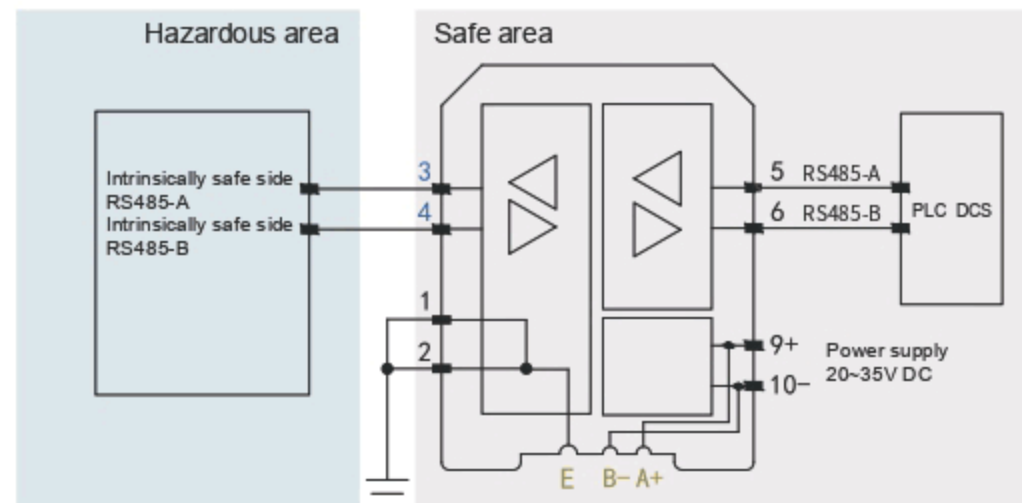
Wire requirements: Horizontal cutting surface $\geq 0.5\text{mm}^2$

Insulation strength $\geq 500\text{V}$

Applicable field equipments: Communication interface device with RS-485 Half Duplex Digital Signal

Installation place: Installed in a safe zone, it can be connected to intrinsic safety instruments in hazardous areas up to Zone 0, IIC, Zone 20, and IIIC

Connection wiring



Note: The power rail function is an optional function, and users need to specify the power supply method when placing an order
The selection of power rail connectors can refer to page 89 of the "Annex"

Intrinsically safe certification

Explosion proof mark: [Ex ia Ga] IIC [Ex ia Da] IIIC

Explosion-proof standard: GB/T 3836.1-2021 GB/T 3836.4-2021

Terminals 3-4: U_m : 250V AC/DC $U_o=7.7\text{V DC}$ $I_o=80\text{mA}$

$P_o=0.15\text{mW}$ $C_o=6.9\mu\text{F}$ $L_o=5\text{mH}$

Certification body: CQST(China National Quality Supervision and Test Centre for Explosion Protected Electrical Products)
Shanghai lightning protection products testing center