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Intrinsic safety Ex ic meets fieldbus

Meet the demands for your Zone 2 fieldbus installation today

Latest as of 2011 plant owners are required to comply with the new standard Ex ic (IEC 60079-11 and IEC 60079-27 Ex ic, FISCO). FieldConnex fieldbus infrastructure for FOUNDATION Fieldbus H1 and PROFIBUS PA is upgraded to meet these demands and more: Intrinsic safety requires a tight string length of 50 mm between intrinsically safe and other circuits and certain levels of galvanic isolation. Ex ic is intrinsic safety for Zone 2 according to FISCO or Entity.

FISCO is the winner in simplifying application and validation of explosion protection in the hazardous area by removing needs for calculation. With FISCO limits for safe current, voltage and power are set in the standard and adhered to by all certified devices. For the user FISCO prescribes limits in cable lengths and specifies that only one power supply is permitted per segment. Validation with FISCO is simple: It only requires proper documentation of certification of power supply, cables and instruments used.

<Fehler! Verweisquelle konnte nicht gefunden werden.>

Protection of existing investment

Plants in use today may continue to conform to the standards to which they have been designed. This includes minor updates and modifications. For this Ex ic-rated equipment can be used as replacement parts in plants validated in accordance with Ex nL, even now that Ex nL will cease to exist. For new plants and major upgrades the new standard Ex ic is to be used.

Plant owners are well-prepared to meet the latest requirements with FieldConnex

MBHD-FB1-4R is the latest FieldConnex High-density Power Hub. Individual plug-in power modules in redundant configuration supply to up to four segments. The Power Hub is beefed

up to supply 500 mA of current to the segment and allows a free choice of power modules. Output voltages from 31 V down to 17 V (U_o for FISCO Ex ic) allow the right fit in conjunction with the right FieldConnex fieldbus coupler for any hazardous area. The High-density Power Hub is certified for installation in Zone 2/Div. 2.

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R2-SP-N* marks the FieldConnex Segment Protector family fitted for Ex nL and Ex ic. The * identifies the choice from four to twelve spur outputs. It is updated with a protection wall for a tight string length of 50 mm between the trunk and spur lines. Short-circuit protection at each spur ensures fieldbus availability, keeping the fieldbus in operation while work is performed on field instruments.

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Intrinsic safety Ex ic for Zone 2 and FieldConnex enable live work on devices while the plant is in operation – all without the requirement of a hot work permit. Contact your Pepperl+Fuchs sales office or representative for a technical presentation and a quote for all FieldConnex components.

Key words: FieldConnex, Fieldbus Infrastructure, FOUNDATION Fieldbus H1, PROFIBUS PA, Ex ic, intrinsic safety, Ex nL, energy limitation, Power Hub, Segment Protector

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Input and Output Value	Limit Value
$I_o \leq I_i$	380 mA
$U_o \leq U_i$	17.5 W
$P_o \leq P_i$	5.32 W

Table 1:

Intrinsically safe ignition protection Ex ic according to IEC 60079-27 with limit values for fieldbus installations according to FISCO.

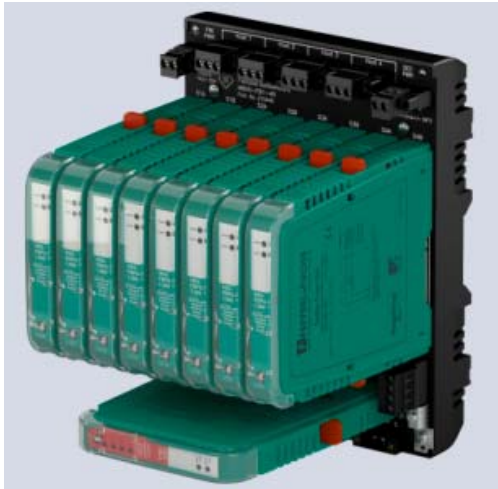


Fig. 1:

FieldConnex High-density Power Hub meeting isolation levels of Ex ic ignition protection.



Fig. 2:

FieldConnex R2 Segment Protector with short-circuit protection per spur-output and easy handling.