

The Interface Solution Experts

SSX & SST Safety Series Isolator/Splitter



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FS (Functional Safety) Series New Members

STA
Safety Trip Alarm



SRM
Safety Relay Module



SSX & SST
Signal Isolator / Splitter



Next family member: STX – Safety Temperature Transmitter (late 2013)

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SSX/SST Features and Highlights



- Designed, built, approved and certified by exida to IEC 61508:2010; as SIL 3 capable in monitor mode (when only input circuit is used) and SIL 2 for single use mode.
- SSX & SST pass HART data (Model SSX is Unique – only loop powered HART pass-thru unit on the market)
- 1500Vrms Input to Output Isolation
- (-)40 to 85°C Ambient Operating Temperature and long-term stability (Outperforms the competitors)

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SSX/SST Features and Highlights Cont'



- Standard 20v/m RFI/EMI Protection
- Transmitter loop supply is standard on SST
- -EP (Externally Powered) option on SST splitter
- -0HART (No HART) option
- Input impedance is 100 ohms vs 250 ohms; option for 250 ohms (-IZ250) – different from older models HIX/HIT

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SSX in Typical SIS Application

Non-HART
Transmitter

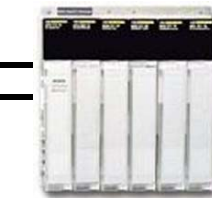


Sensor

4-20mA

+24

SSX



SIS
Logic Solver

+24

4-20mA

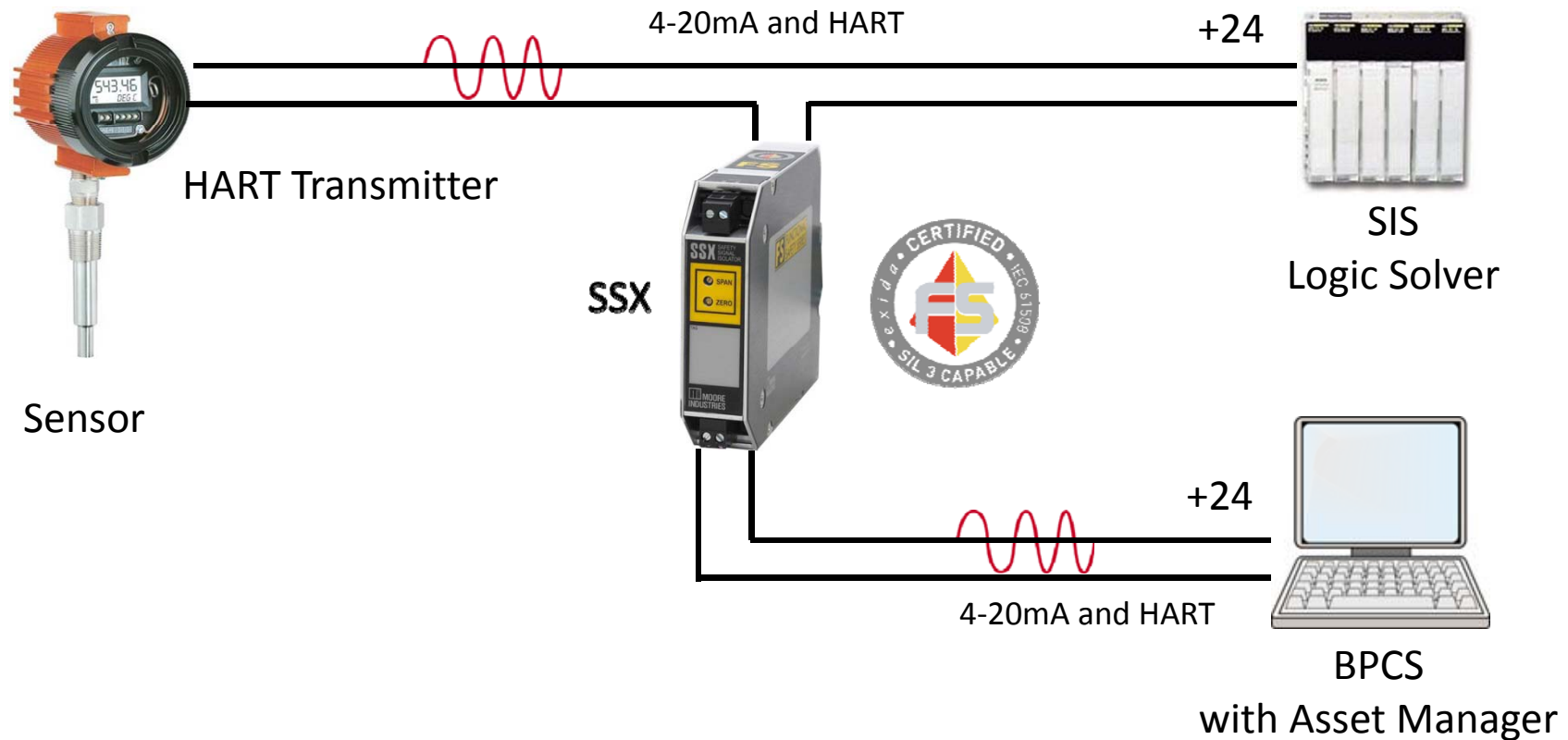


BPCS

Example of SSX used in **monitor mode**, exida has certified the SSX/SST for use in an SIS up to **SIL3**, where only the input circuit is part of the safety function. **DCS 4-20mA loop is Isolated from SIS.**

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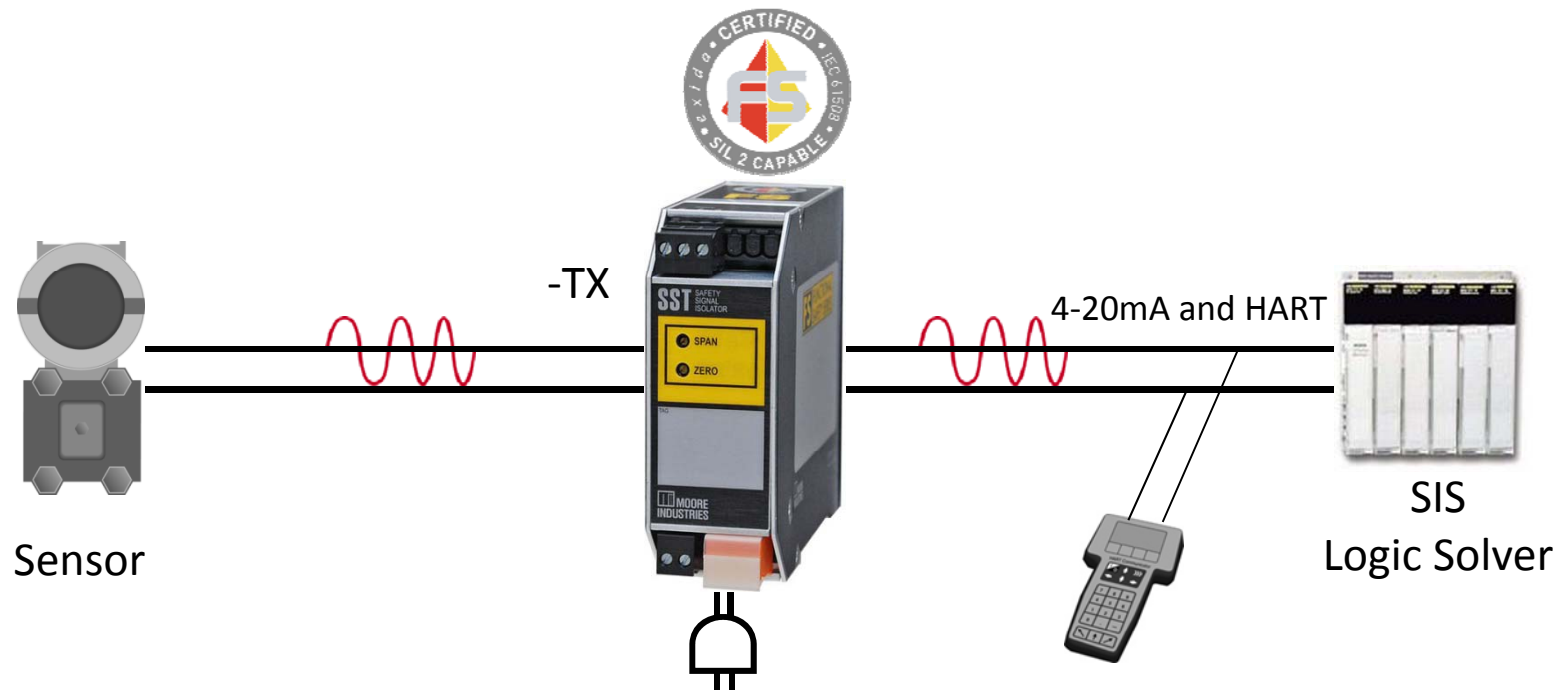
SSX in Typical SIS Application - HART Asset Manager



Example of SSX used in **monitor mode**, exida has certified the SSX/SST for use in an SIS up to **SIL3**, where only the input circuit is part of the safety function. **HART signal is passed thru to DCS for Asset Management. DCS 4-20mA loop is Isolated from SIS.**

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SST in Typical SIS Application with HART

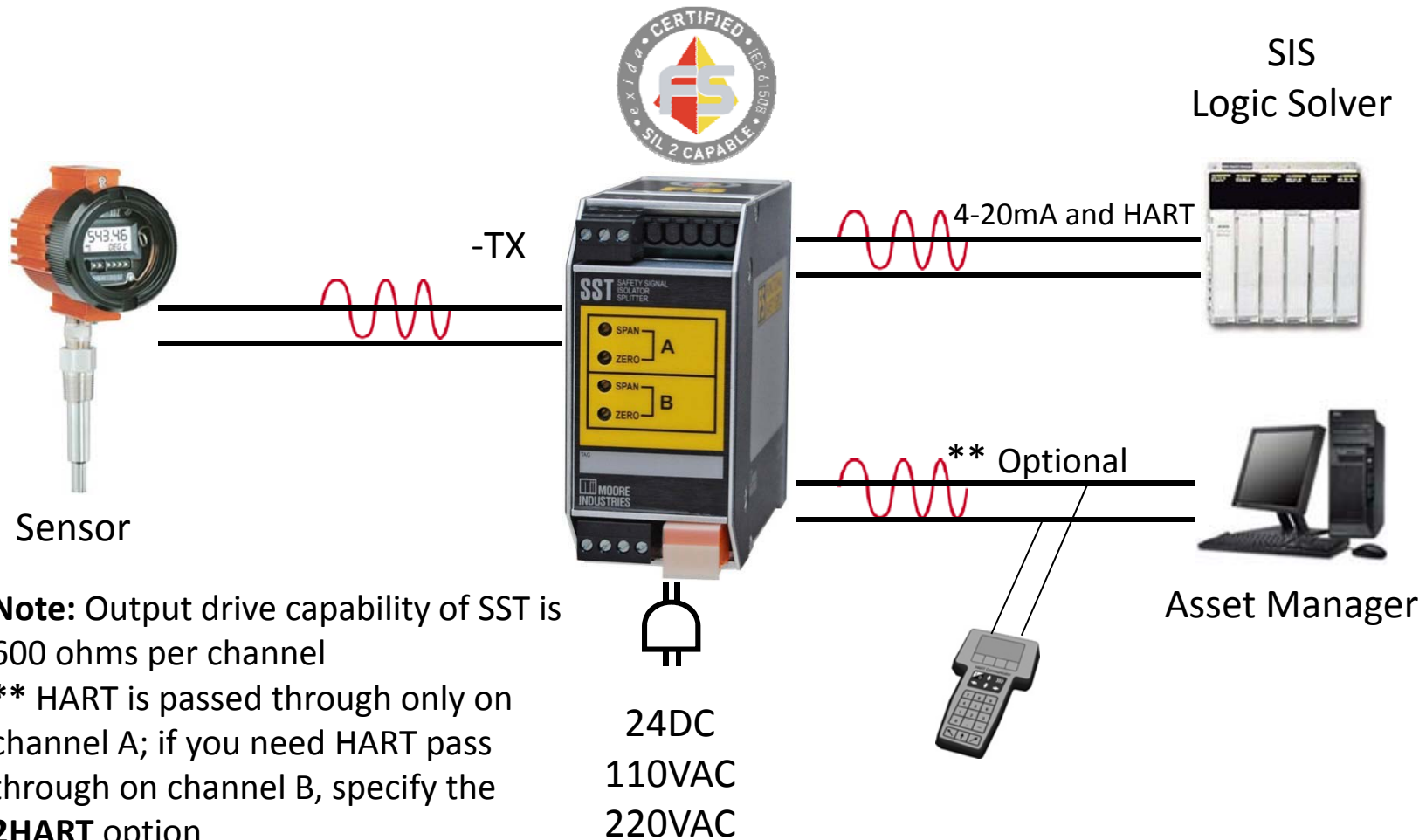


Note: Input impedance on both SSX & SST is 100 ohms. If 250 ohms is required, specify the **-IZ250** option.

24DC
110VAC
220VAC

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SST Splitter in SIS Application with HART

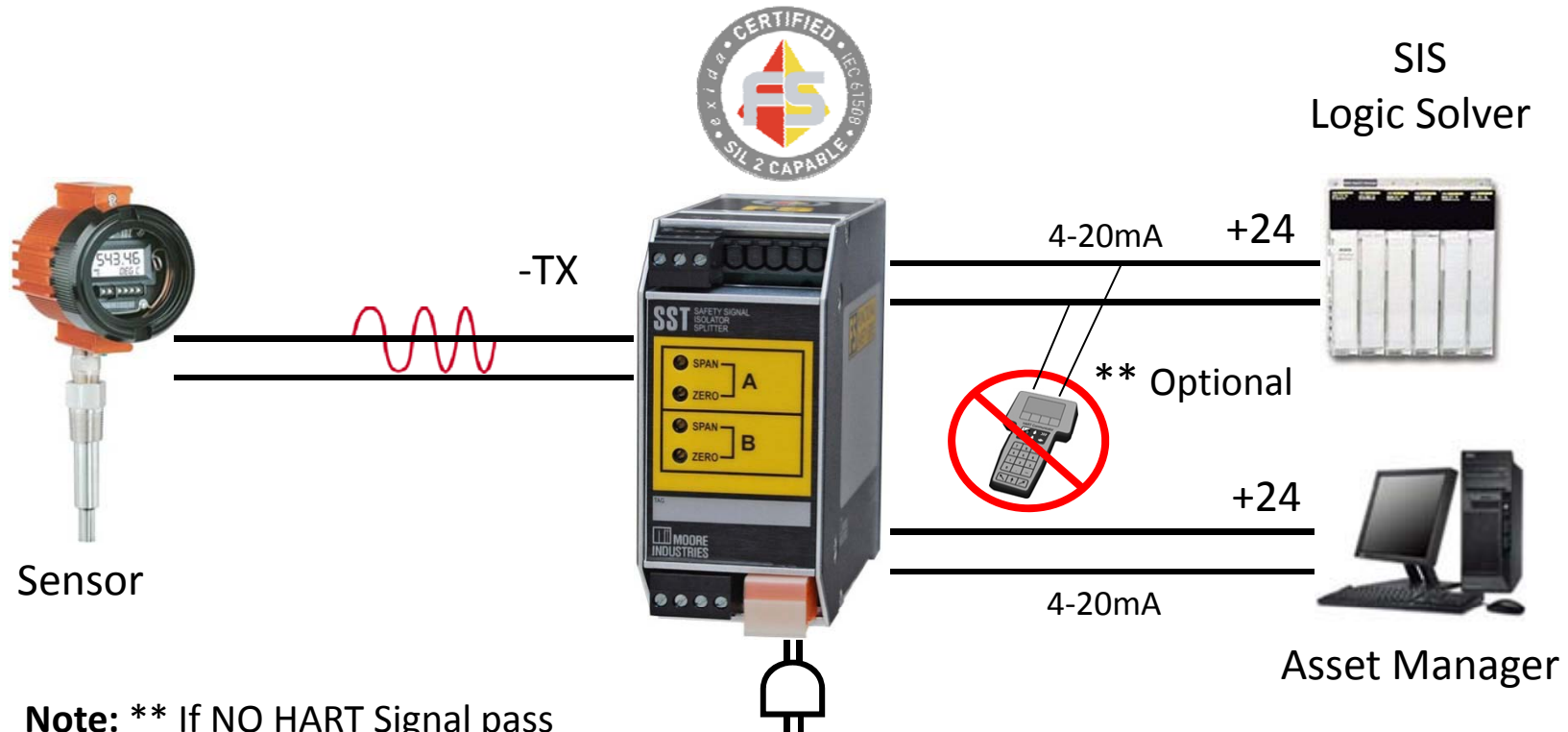


Note: Output drive capability of SST is 600 ohms per channel

** HART is passed through only on channel A; if you need HART pass through on channel B, specify the **2HART** option

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SST Splitter with -EP and -0HART Options



Note: ** If NO HART Signal pass through is required specify **0HART** option, either the SSX or SST; and/or the external powered outputs **EP option** for SST Splitter model only.

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Selecting a device for use in a Safety Instrumented System

- The IEC 61511 / ISA 84 international safety standard defines the requirements for end users and engineering companies to follow when selecting components and subsystems for use in a safety instrumented system (SIS).
- There are two approaches to demonstrating suitability for use:
 - Product was designed and developed in accordance with IEC 61508
 - Product has completed a “Prior Use” Justification

Certification to IEC 61508

- The IEC 61508 standard defines the requirements for suppliers to follow during product development to ensure that their products have a high level of resistance to random and systematic failures. Compliance is demonstrated by third party certification agencies such as exida.

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Selecting a device for use in a Safety Instrumented System

Prior Use Justification

- The user must put in place a rigorous process for tracking and documenting operating experience to gather evidence of suitability. The recording of operating hours and analysis of all repairs and failures must be done to justify that the device has the necessary reliability to be used in the intended application. Because of the additional effort, cost, and risk with “self certification”, most end users prefer to use certified devices.

Benefits of using devices certified to IEC 61508

- Lower lifecycle costs -
 - No need to justify use of device by costly “prior use” analysis and tracking of installed devices
- Easier compliance with international standards
- Reduces risk (accidents) and liability
- Helps ensure SIS is not overdesigned (\$\$) or under-designed (? risk)