

SIS-TECH Applications



DIAMOND SIS®



The **DIAMOND-SIS®** is designed as a low-cost, stand-alone, non-PE logic solver for process industry applications. Rated for -30C to +75C and constructed using Class I Div II components, it can be installed in the process unit even under the harshest conditions near the equipment under control, reducing implementation costs.

DIAMOND-SIS® provides high integrity and process reliability. It is available in single, dual, and triplicated channel configurations with on-line diagnostics, testing, and maintenance facilities. The single and dual channel systems are certified to SIL 2, while the triplicated channel system is certified to SIL 3. This means that the **DIAMOND-SIS®** can meet the fault tolerance and PFavg requirements of any application.



Each channel receives an analog or digital process signal. Two field-adjustable setpoints allow shutdown to be executed for high and low process signals. Serial or hardwired communications are used to remotely display process variables and system alarms. With its 5 Amp output rating, the system can de-energize multiple final elements, including motor control circuits and/or solenoid operated valves. Manual reset, local or remote, ensures controlled process re-start after shutdown. Manual ESD, using a local or remote emergency shutdown button, can be supplied. System power is 24VDC, 110VAC, and 240VAC and the **DIAMOND-SIS®** can be provided with redundant power supplies and/or UPS.

The **DIAMOND-SIS®** is designed to make testing as simple as possible. Test procedures are supplied with each system. By simulating the process variable signal, the trip circuit can be function tested from input to output. Each channel has a dedicated status indication on the front-panel to make testing and troubleshooting easy. The single channel package is provided with a bypass switch so that testing and maintenance can be performed online. The dual and triplicated channel packages do not require a bypass for testing or maintenance, but bypasses can be provided as an option.

The **DIAMOND-SIS®** design allows repair/replacement of the trip modules without disconnecting wiring, reducing the potential for errors during maintenance.

The Safety Requirements Specification, including Safety Integrity Level verification documentation, can be supplied as an option. This makes the **DIAMOND-SIS®** the perfect packaged solution to address low I/O SIS needs.

TYPICAL DIAMOND-SIS® APPLICATIONS:

- PROCESS HEATERS/FURNACES*
- PIPELINE PRESSURE PROTECTION*
- FLARE LOAD MITIGATION*
- VESSEL OVERPRESSURE PROTECTION*
- PUMP PROTECTION*



THE LOW COST ALTERNATIVE TO SAFETY PLC's

KEY FEATURES

- 2003 version is certified to IEC 61508 SIL 3 in SH3 configuration
- High reliability
- Proven technology
- Rugged design
- Field mountable
- On-line testable & repairable
- Remote process variable & system status monitoring
- No programming
- Low installed cost alternative to a Safety PLC

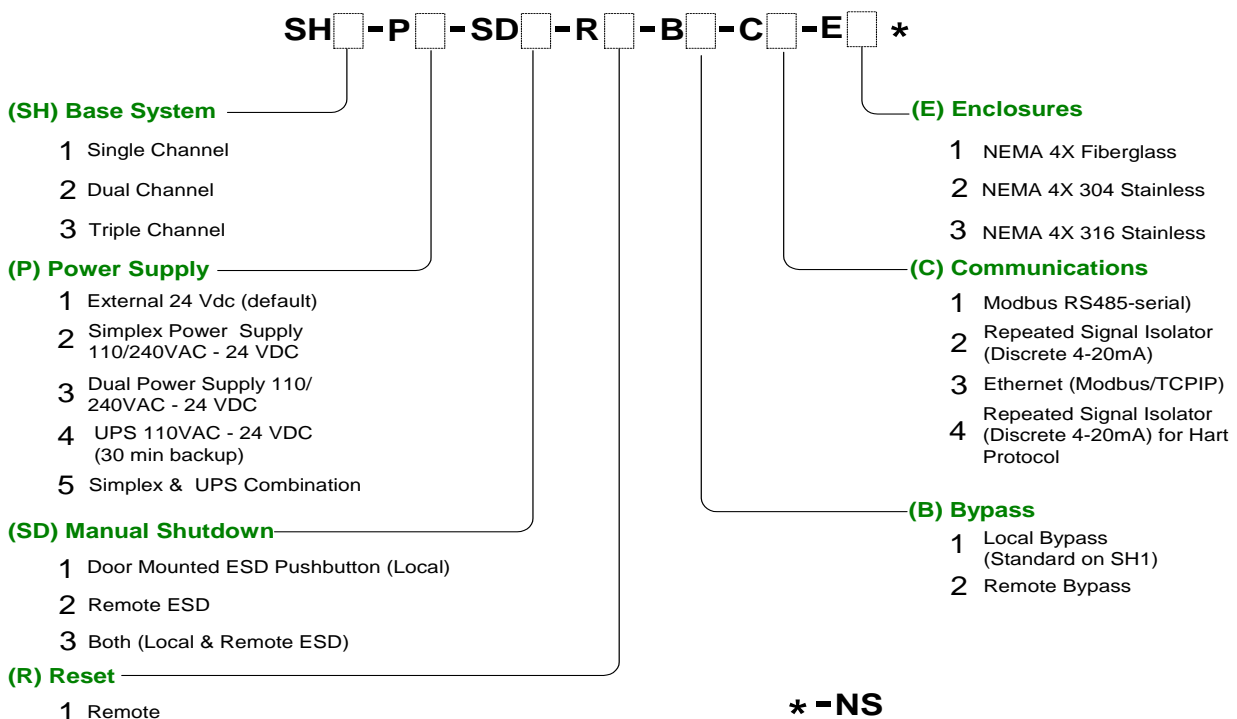
SPECIFICATIONS

- Supply Power: User specified, 24VDC/110VAC/240VAC
- Input: 4-20 mA DC or discreet (dry contact)
- Output: 5 Amp resistive dry contact
- Accuracy: 1% of span
- Temperature: -40 to +80°C Storage / -30 to +75°C Operating
- Environment: All internal components rated Class I Div II Groups A/B/C/D
- Enclosure: NEMA 4X – choice of materials

ENGINEERING/DOCUMENTATION OPTIONS

Safety requirements specification for complete instrumented loop, including SIL Verification

ORDERING SELECTION



*** -NS**

Systems which include non-standard options.