Safety Control System™ Specification Sheet



IECEX AND ATEX CERTIFIED DIESEL ENGINE SAFETY SHUTDOWN SYSTEM

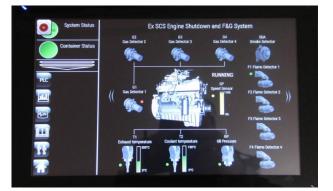


Pyroban's Ex SCS is a configurable PLC-based gas detection shutdown system, for the protection of offshore diesel engines operating in hazardous zone 2 area applications.

FEATURES AND BENEFITS

The Ex SCS safety shutdown system will quickly and reliably trigger a safety shutdown on detection of:diesel engine over speed

- high exhaust gas and coolant temperatures
- low oil pressure
- flammable gas detection in the engine air inlet
- manual emergency stop activation



Ex SCS features a touchscreen Human Machine Interface (HMI) that displays the current status of the safety shutdown system.

There are three basic variants:

Ex SCS - Single

Enables the system to be applied to single engine applications.

Ex SCS - Twin

Enables the system to be applied to twin engine applications.

Ex SCS - FG (Fire & Gas)

The System can monitor fire & smoke detectors and uses a volt free relay output signal that can be used to interface with a 3rd party fire deluge and forms part of your DNV2.7-2 compliance strategy.

- Category 2G Zone 1 electrical apparatus > Compatible with NORSOK Z-015 and DNV 2-7.2 installations
- High Speed IR Gas Detection technology > Calibration gas is not required immediate start up cycle
- **SIL1** (base system only Pyroban supplied field devices) Safety instrumented functions for engine protection and gas detection to IEC61511
- ATEX 2014/34/EU Safety shutdown and exhaust flame arrestor elimination compliance > Notified body certified Elimination of exhaust flame arrestors in a Zone 2 Hazardous area giving reduced maintenance and manual handling, longer running duration and uptime
- Ex de IP 66 Enclosure > Cost effective compliance, confidence for the duration of the design life
- Engine Controls & Engine fault codes J1939 & Modbus > Eliminates the need for Cat Messenger, Murphy Powerview, DDC Fire-commander
- Dual Certified to ATEX/IECEx > World wide asset utilisation, delivers flexibility and futureproofing
- DNV 2.4 vibration class B > Vibration testing completed for installers peace of mind



Ex SCS[™] Safety Control System

PYROBAN[®]

Applications

Ex SCS is a versatile safety shutdown and rotating equipment control and monitoring system.

It can be used on a variety of diesel and gas engines where Category 3G hazardous area control systems are required.

It is best suited to modern electronic diesel engines where connectivity and seamless integration deliver benefits for the operator in terms of overall installation and lifetime costs.

The Main Electrical enclosure protection concept allows Zone 1 certification, the HMI is certified for Zone 2.

Example uses:

Emergency diesel generator set (DGS), essential DGS, fire water pump DGS, well test air compressors, camp / maintenance power DGS, twin cementers, single pumpers, nitrogen units, coil tubing HPU's, work over HPU's, scale pumps, steam boilers, rig cooling pumps, HP and UHP water jetting pumps.



CERTIFICATION

The Pyroban Ex SCS safety shutdown system is suitable for operating in a zone 1 hazardous area, when installed according to manuals POM1114, POM1115 and POM1116.

The individual supplied components that make-up the shutdown system all carry their own certification as listed in the table below.

| Ex SCS COMPONENT | ATEX CERTIFICATION | IECEx CERTIFICATION |
|--------------------------|--------------------|---------------------|
| Ex SCS Controller | 16ATEX0157X | SEV16.0012 |
| IR Gas Detector(s) | 01ATEX129485X | ULD04.0002X |
| IR Gas Detector(s) | 12ATEX1206X | BAS09.0109X |
| Speed Sensor | 17ATEX0238 | IECEx EXV 17.004 |
| Temperature Transmitters | 10ATEX88834X | IECEx DNV08.007 |
| Oil Pressure Switch | 12ATEX17511X | ITS12.0007X |
| HMI | 17ATEX1900X | IECEx UL 17.0058X |