



Exploration & Production

GENERAL SPECIFICATION

INSTRUMENTATION

GS INS 186

**Heat & Smoke Detector
standard function
- RDH & RDS -**

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Rev.	Date	Notes



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1. Scope

The purpose of this document is to define the Standard Functions of Heat and Smoke Detectors.

This standard applies to thermostatic heat detector (RDH), ionic smoke detector (RDIS) and optical smoke detector (RDOS).

Four detectors may be mounted on the same loop and are considered as one analogue input.

In order to assist in understanding, this document should be read in conjunction with **GS INS 150**, Design Methods for System Configuration Standard Functions.

This standard is generally used in relationship with the 2ooN logic voting standard.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

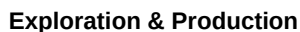
Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	



Total General Specifications

3. General description of functions

3.1 List of main functions

- 4-20 mA signal acquisition
- Detection of input fault (Open circuit)
- Fire detection
- Loop reset command
- Maintenance input trip command

4. Interfaces description

4.1 General description



4.2 Specific interface description

- Analogue signal characteristics :
 - < 2 mA Open circuit detection
 - 4 mA Signal in normal situation
 - > 7 mA Detection status
- Digital output for reset loop

5. Detailed description of functions

5.1 Status conditions

Status	Conditions
Detection status	Active if signal > 7 mA (for DCS alarming and/or FGS logic)
Fault Status	Fault if signal is below 2 mA (for DCS alarming and/or FGS logic)
Loop Reset output	Active when both detection and loop reset command active

5.2 Commands description

Command	Conditions
Loop Reset	Active when pulse signal (from HMI)
Maintenance input trip	Set and reset (from HMI in maintenance access level)

The maintenance input trip command will force the activation of the fault status.

6. Tuning parameters and variables

PARAMETER	ACCESS LEVEL
Detection threshold	Engineer

7. Representation and animation description (HMI)

7.1 Events to be recorded

- Detection status
- Invalid status
- Maintenance input trip command
- Loop reset command

7.2 Alarm management

Alarm Description	Priority
Detection alarm	Level 3
Fault alarm	Level 3

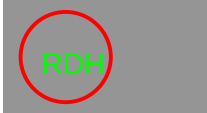
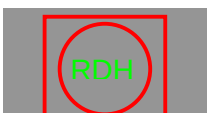
7.3 Control display

RDSxxxx for Smoke detector

RDHxxxx for Heat detector

Display description	Display	Text	Frame
Normal Status		Blue steady	NA
Unacknowledged Alarm Status		Red flashing	NA
Acknowledged Alarm Status		Red steady	NA
Fault status		Red	Red
Communication or system fault		White	Magenta

7.4 Specific Animation description

Display description	Display	Symbol	Frame
Normal Status		Green	NA
Alarm Status (before acknowledgement)		Red flashing	NA
Alarm Status (after acknowledgement)		Red steady	NA
Fault status (before acknowledgement)		Green	Red flashing
Fault status (after acknowledgement)		Green	Red steady
Inhibit of the result of the associated voting logic		Green or red	Yellow steady