



Exploration & Production

GENERAL SPECIFICATION

INSTRUMENTATION

GS INS 185

**Flame Detector
standard function
- RD -**

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Rev.	Date	Notes



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1. Scope

The purpose of this document is to define the Standard Function for a Flame detector (RD).

This type of detector can be :

- infra-red detector (RDIR)
- ultra-violet detector (RDUV)
- ultra-violet / infra-red (RDUI)

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 200N 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

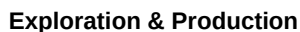
Reference	Title
Not applicable	

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 fault input (Open & Short circuit)
- Dirty Optics detection
- Detection of flame
- Maintenance input trip command

4. Interface description

4.1 General description



4.2 Specific interface description

Analogue signal characteristics : (values according to supplier standards)

- < 2 mA Open circuit detection
- = 2 mA Dirty Optic
- 04 mA Healthy status
- 16 mA Flame detection (instantaneous)
- 20 mA Confirmed detection (after adjustable time delay)
- > 21 mA Short circuit detection

5. Detailed description of functions

5.1 Status conditions

Status	Conditions
Alarm Status (flame detection)	Active if signal > 14 mA (Detection of flame)
Confirmed detection Status	Active if signal > 18 mA (Confirmed Detection of flame)
Fault Status	Fault if signal is below 2 mA or above 21 mA.

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

6. Tuning parameters and variables

PARAMETERS	ACCESS LEVEL
Threshold of flame detection	Engineer
confirmed threshold of flame detection (optional)	Engineer

7. Representation and animation description (HMI)

7.1 Events to be recorded

- Alarm status (flame detection)
- Confirmed flame detection
- Fault status (open or short circuit)
- Maintenance input trip command

7.2 Alarm handling

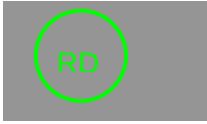
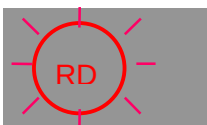
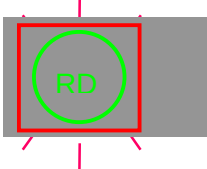
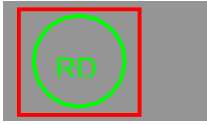
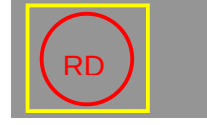
Alarm Description	Priority
Flame detection	Level 3
Confirmed flame detection	Level 3
Fault Status	Level 3

7.3 Control display

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

The events which drive these frame displays may not be mutually exclusive. Therefore, the precedence on the display, from most to least important, shall be : magenta, white, blue, yellow

7.4 Specific Animation description

Display description	Display	Symbol	Frame
Normal Status		Green	NA
Alarm Status (flame detection) (before acknowledgement)		Red flashing	NA
Alarm Status (flame detection) (after acknowledgement)		Red steady	NA
Dirty optic (before acknowledgement)		OPT = Red flashing	NA
Dirty optic (after acknowledgement)		OPT = Red steady	NA
Confirmed detection (before acknowledgement)		Red steady HH = Red flashing	NA
Confirmed detection (after acknowledgement)		Red steady HH = Red steady	NA
Fault status (before acknowledgement)		Green	Red flashing
Fault status (after acknowledgement)		Green	Red steady
Inhibition of the result of the associated voting logic		Green, Red or Yellow	Yellow