

LSIRS02 Infrared flame detector module

LS communication infrared flame detector control

■ Summary



*Infrared flame detector module

- Sensor signal input (DC 0 to 10 V) : 1
- Sensor Power Supply (\pm DC 12 V) : 1
- Double-wave rectification waveform : 1
- Contact input : 2
 - Burner valve closing signal
 - Fuel selection signal
- Contact output : 3
 - Flame ON signal
 - Low flame brightness level
 - Module abnormal signal
- Analog output : 2
 - Brightness analog
 - Frequency voltage/frequency number level

*Module operating ambient temperature range : -5 to 60°C

■ Specifications

| ITEM | | SPECIFICATION |
|--|--|--|
| Input signal | Sensor signal | Input voltage 0 to 10 V |
| | Burner valve closing signal | Contact input |
| | Fuel selection signal | Contact input |
| Output signal | Sensor power | DC+ 12 V -12 V |
| | Flame brightness level low | Contact output Output rating: DC 125 V/AC 120 V 0.1 A |
| | Frame ON | Contact output Output rating: DC 125 V/AC120 V 0.1 A |
| | Module abnormal | Contact output Output rating: DC 125 V/AC 120 V 0.1 A |
| | Frequency voltage/frequency number level | Analog output Voltage output 0 to 10 V |
| | Double-wave rectification waveform | Analog output Voltage output 0 to 10 V |
| | Brightness analog output | Analog output Voltage output 0 to 10 V |
| Data refresh cycle | | 100 msec |
| Isolation voltage | HW performance | AC 500 V Input terminal to PE (A/I) |
| | | AC 500 V Output terminal to PE (A/O) |
| | | AC 1500 V Output terminal to PE (D/O) |
| Inter-IOA communication specifications | Communication system | LVDS |
| | Communication speed | 100 Mbps |

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| ITEM | | SPECIFICATION | |
|---|----------------------------|--|-----------------------|
| Self diagnosis | | Power check (24 V, ± 12 V, 5 V, 3.3 V, 2.5 V, 1.8 V, 1.0 V) Clock check (FPGA-Diagnostic MCU, Diagnostic MCU-FPGA) Heartbeat check (FPGA-Diagnostic MCU, Diagnostic MCU-FPGA) CRC check (FPGA) Sensor check Module check Watchdog timer Clock monitoring (H/W circuit construction) | |
| Detection | | Sensor failure and sensor cable disconnection detection monitors sensor check pulses every 60 seconds. | |
| Protection | Supply power protection | Overvoltage protection Overcurrent protection | |
| Indicator | Display LED | 4 indicators: RUN (Run)/STS (Status)/NSA (Network status A)/NSB (Network status B) Frame ON/Low brightness level/Abnormal sensor/Abnormal frame detector/ Module checking in progress/Sensor power normal | |
| Hot swapping (hot-wire insertion/removal) | | Supported | |
| Rated voltage | | DC 24 V $\pm 20\%$ (The voltage supplied from the backplane) | |
| Environmental conditions | Module ambient temperature | (Operation) -5 to 60°C | (Storage) -40 to 85°C |
| | Module ambient humidity | Less than 95%RH (No Condensation) | |
| | Elevation | Up to 2000 m | |
| Vibration | In use | 3.5mm @ 5Hz to 8.4Hz 1G @ 8.4Hz to 150Hz | |
| | When packing | Withstand the impact of a natural fall from a height of 1 m | |
| Shock | | 15 G 11 ms | |
| Consumption current | | 184 mA | |
| Power consumption | | 4.42 W | |
| Weight | | 0.20 kg | |
| Dimensions | | 152.5 mm (D) x 94 mm (H) x 46 mm (W) (Except projection) | |
| Compliant standard | | EN 61131-2:2007 RoHS | |
| International standards | | Compliance with International Standards for Anti-Flame Response Speed NFPA86 (USA) | |

About compliant module type

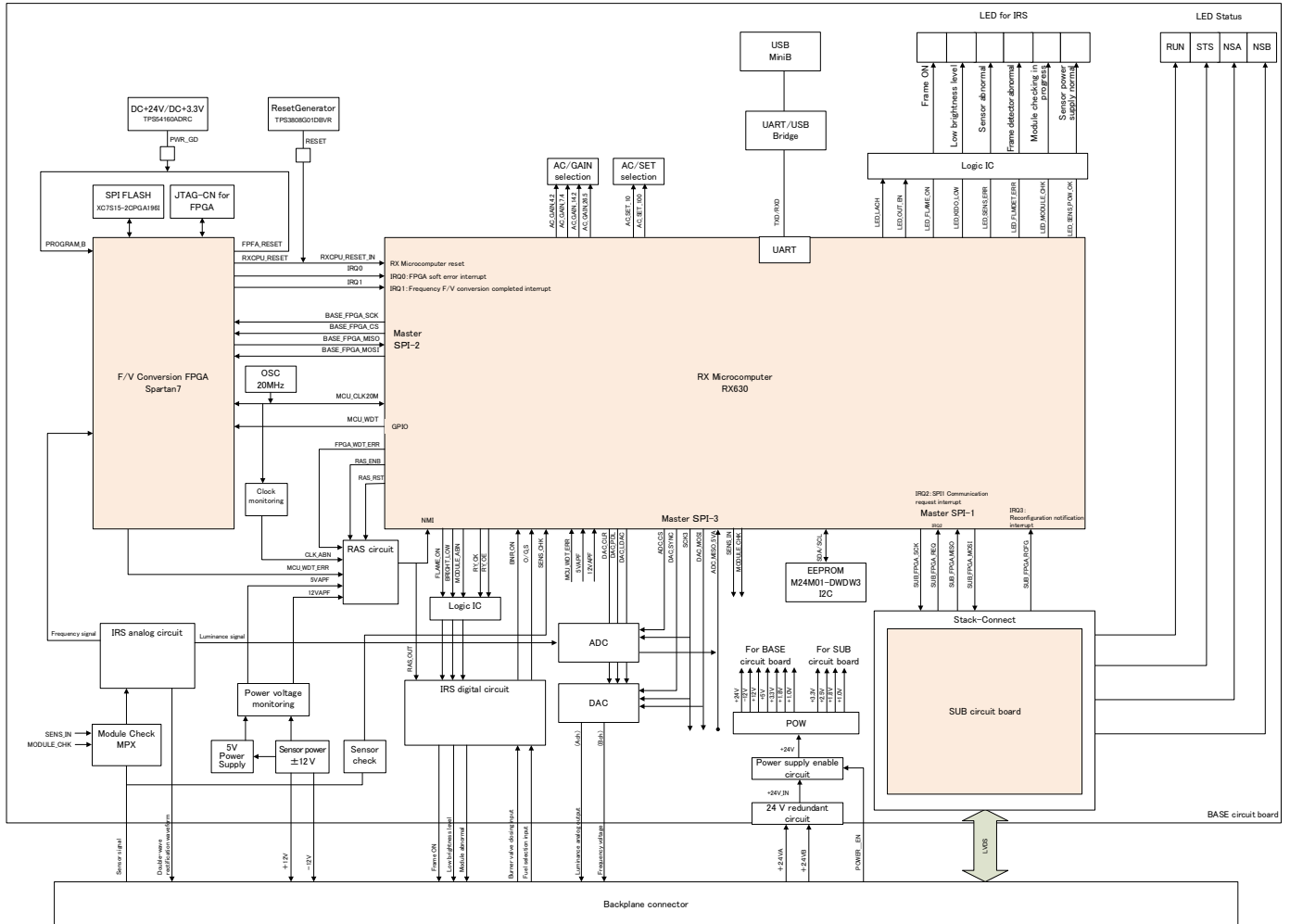
For compliant modules of this product, please refer to "Compliant backplane list (CGS-S9901-E-XX)".

For compliant modules of this product, please refer to "Compliant accessory connector list (CGS-S9902-E-XX)".

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Block diagram



- | | | | |
|-------|--------------------------------------|------|---|
| (R) | : Redundant | SPI | : Serial Peripheral Interface |
| P/S | : Power Supply | PWM | : Pulse Width Modulation |
| LVDS | : Low Voltage Differential Signaling | IRQ | : Interrupt ReQuest |
| FPGA | : Field Programmable Gate Array | VF | : Voltage field |
| CPU | : Central Processing Unit | FG | : Frame Ground |
| DPRAM | : Dual Port Random Access Memory | PE | : Protective Earth |
| ROM | : Read Only Memory | GPIO | : General-purpose input/output |
| WDT | : Watch Dog Timer | UART | : Universal Asynchronous Receiver Transmitter |

When using, please read the instruction manual attached to the product carefully and use it properly.

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