Measure ^{IT} Uvisor System

MFD Multi Flame Detector - Control Unit

Product Data Sheet
(Rev. D)

Multi fuel / multi flame detector system
Two - Systems - In - One

- Application:
  - Industrial and large utility boilers
  - NG, BFG, Oil, Orimulsion and pulverized coal burners
- Dual channel flame scanners control unit
- Individual channel maintenance power-off
- Multilanguage graphic display operation. English, Chinese, Italian, German, Spanish.
- Individual channel flame raw signal outputs.
- AUTOTUNING function.
- On-line self-checking.
- Scalable 0÷10 / 4÷20 mA analogue outputs, isolated.
- Free programmable flame relays output logic CH1 &/OR/≠ CH2.
- Built in MODBUS standard driver.
- Multilevel power supply
- Detector temperature monitoring (TC input)

The Uvisor MFD (Multi Fuel-flame Detector) is an advanced flame signal processor specifically designed for high safety / high performance application on industrial and large utility boilers.

Uvisor MFD behaves as a true **"Two-Systems-in-One"**, processing simultaneously the flame signals carried by two scanner heads regardless the sensor spectral range (Ultraviolet or Infrared) or the electrical signal type (amplitude/frequency modulated signal or pulse rate signal).

The unit is fail-safe by design and provides continuous diagnostic routines to verify the integrity of the sensors and associated detector circuitry. Uvisor MFD performs a continuous surveillance of the on-board and connected scanner head electronic circuitry. Relay drivers integrity is cyclically tested and flame relays contacts are fuse-protected to prevent sticking due to overload.

External access to both detector channels as well as to the whole flame monitoring system is provided through MODBUS link allowing flame quality overview, diagnostic event list, historical trend and flame analysis.

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TECHNICAL DATA	
Power Supply	− 120÷220 Vac +/- 20%, 45÷65 Hz − 24Vdc +/- 20%
Power consumption	AC input: 30 VA (6A / 5 ms in-rush current) DC input: 22 W (24A / 2 ms in-rush current)
Ambient temperature operating: storage:	0 ÷ 60°C (32 ÷ 140 °F) -25 ÷ 85°C (-13 ÷ 185 °F)
Enclosure Classification	IP20 (NEMA 1)
Dimensions	106 x 128 x 186 mm (w, h, d). See figure 3
Weight	Approx. 1.2 Kg. (2.64 Lbs)
Mounting	Standard Rack 19" . See figure 1
Electrical connections	Two (2) connectors 16+16 male. Standard DIN 41612 "F" Row "d" "z". Screw type. See figure 2
Channels	Two (2) self-configuring "Pulse / Flicker". Maintenance power-off removes output power @ selected channel.
Flame Relay	Two (2) SPDT. VDE0110 Contact rating: 250 Vac 3 A 750 VA cosf. 0,4 220 Vdc 300 mA 66 W.
Flame Failure Response Time	Configurable from 1 through 5 seconds
Safe Relay	One (1) SPDT. VDE0110 Contact rating: 250 Vac 3 A 750 VA cosf. 0,4 220 Vdc 300 mA 66 W.
Temperature alarm	One (1) SPST. VDE0110 Contact rating: 100 Vac 0.3A cosf ≥ 0.4 30W
Analogue output	4-20 mA / 0-10V programmable. Opto-isolated Scalable: +/-30dB, 0-30dB, 0-20dB
Flame raw signal output	Two (2) 0 dBV output level.
Communication	One (1) RS485 Opto-isolated One (1) RS232 Opto-isolated Modbus slave protocol
Diagnostic	CPU < 500 ms Detector heads 5 second with UV tube sensors
Temperature reading	Internal: built-in External: TC "J"
Setup files	Four (4) each channel. Programmable through two (2) external free potential contacts or 24 Vdc logic inputs.
Display	Graphic. Language configurable menu. Available: Chinese, English, German, French, Italian, and Spanish. Auto power-off backlight
Configuration	Through panel soft keypad. Access code protection.
Compatible detector heads	Solid state: Uvisor UR600 IR Mod. 1000 Uvisor UR600 UV Mod. 1000 Uvisor UR600 UV-EXT Mod. 1000 Phototube: Uvisor UR450 Mod. 5002 UV Uvisor UR400/440 with UVPS adapter Dual sensor: Uvisor UR460 Mod. UVIR Electrical connection, see figures 4 through 7.
Approvals	CE FM FMRC 7610 CSA CAN/CSA-C22.2 No 199 CAN/CSA E60730-1 (for software)