



ELSA SUPERVISING PANEL 3L-DF/SP (Digi-flex system)

3L-DF/SP is supervising panel
of Early Warning Leak
Locating System

GENERAL FEATURES:

- 3L-DF/SP is a supervising panel to monitor 3L-DF/SM50 sensor modules (up to 40 units).
(Refer 3L-DF/SM50 details in a separate catalogue).
- Precision to locate leak location : +/-1m or 0.5%
- Display : Permanent backlight with LCD of 4 lines x 20 English characters
- Sound Alarm : 90dB max. buzzer with silencing button
- System Menu : Access to Event Log, System Reset, Configuration Mode
- Time to display Leak/Trouble alarm : 18 seconds typical.
- Multiple leak alarms simultaneously : Yes.
Number of simultaneously leak = Number of 3L-DF/SM50 sensor modules in use.
- Max sensing cable length : 2,000m
(Each 3L-DF/SM50 <= 50m, max length = 40 units x 50m).
- 3L-DF/SM50 : Each unit is an independent sensor module (no length association).
Dimension = L50 x W=38 x H=25, connector dimension not inclusive.
Water tight IP67 moulded.
- Leak sensitivity (digital) : Standard 8-level leak sensitivity setting.
Most sensitive level corresponding to about 3cm of tap water.
- Leak alarm level/sensitivity setting : Yes.
Remotely through Modbus when communicating to BMS/EMS.
- Cable break location identification : Yes.

- Zones freezing : Yes.
- Zone names setup : By PC-software (input each zone name up to 35 characters).
- Event Log : 896 Time-stamped Events stored in non-volatile memory, First-In-First-Out (in case overflow).
- Associated parts : 3L-DF/SM50 (sensor module), 3L-DF/LS & 3L-DF/AS (sensing cable), 3L-DF/T-joint (T-Branch) & 3L-DF/End_Cap.
- Mechanical dimensions : Rugged ABS UL-VO case of 222 x 146 x 55mm.

ENVIRONMENTAL RATINGS

Operating temperature : 0°C to 40 °C (indoor installation only)

Storage temperature : -20 °C to 70 °C

Humidity : 5% to 95% non-condensing

POWER REQUIREMENTS

Power supply : 100 - 240VAC

Optional input : 12 - 24VAC/DC

Power consumption : 8 VA/3 W maximum

POWER RELAYS SWITCHING CHARACTERISTICS

Cable break/power failure by contact : Operation – SPDT
(1 relay) Switching current – 0.5 A at 250 VAC, 1A at 30 VDC

Liquid leakage dry contact : Operation – SPDT
Switching current – 0.5 A at 250 VAC, 1A at 30 VDC

SUPERVISING CHANNEL

Proprietary Noise-Immune Bus, ESD and surge protected as per IEC 61000-4-2.

SERIAL COMMUNICATION INTERFACE

Physical support : Opto-isolated RS485-two-wire, ESD and surge protected as per IEC 61000-4-2

Protocol : Modbus

Optional GSM/GPRS transmitter interfacing

Optional Modbus over TCP/IP (allow world-wide remote supervision through Internet connection)

Optional BACnet/IP interface

Optional Profibus interface

Optional LONworks interface

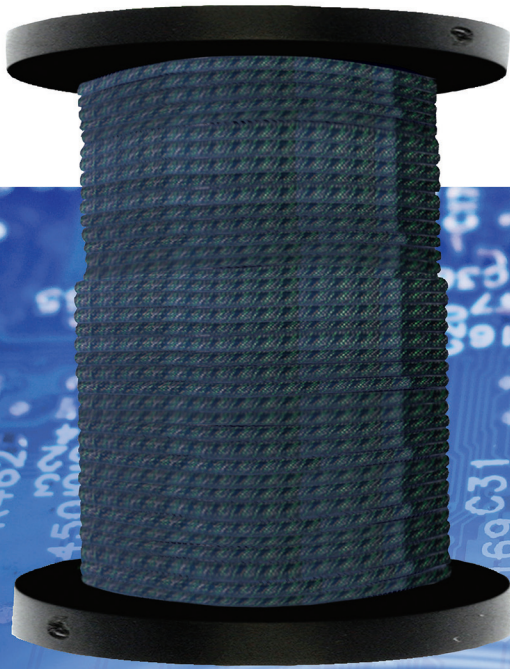
COMPLIANCE TO INTERNATIONAL STANDARDS

EMC emission : IEC61000-6-3(2001) –
Electromagnetic compatibility
Generic emission standard for residential,
commercial and light industrial environment

EMC immunity : IEC61000-6-1(2001) –
Electromagnetic compatibility
Generic immunity standard for residential,
commercial and light industrial
environment

3L-DF/SP DIMENSIONS





ELSA SENSING CABLE 3L-HCS

3L-HCS is the sensing cable use to detect non-conductive hydrocarbon liquids (such as Diesel, Fuel, Crude Oil & etc) with fast response time & reusable.

CHARACTERISTICS & PERFORMANCE:

- Sensing technology : Based on semiconductive elastomeric material swelling property when in contact with non-conductive liquids of hydrocarbon (such as Diesel, Fuel, Crude Oil & etc).
- No false alarm : It is non-sensitive to water, dirt, pressure, vibration & etc.
- Install environment : Suitable for industrial, outdoor or challenging environmental conditions.
- High reliability : Upon detection of hydrocarbon liquids, it remain reusable after simple cleaning. It will reset automatically after the evaporation of volatile liquids such as gasoline or light naphtha.
- Safe design : Maximum voltage on sensing cable is limited to very low value which is at safe operation mode. Thus no risk of ignition when detected hydrocarbon liquids and is fully mitigated. Hazardous site is safe to operate with Zener Barrier connection as an option.
- Typical response time :
 - Gasoline, Light Naphtha : 2 min 30 sec.
 - Diesel, Oil, Jet Fuel : 5 min.
 - Crude Oil : 30 – 60 min (depend on oil viscosity).
- Ambient temperature : -40°C to +85°C.
- Minimum bending radius : 50 mm.
- Typical diameter : 10 mm.
- Cable length : Standard length of 2m, 5m & 10m with connector.
- Optional : Custom length upon request.

