



## ELSA DIGI-FLEX CONTROL PANEL 3L-DF/SDP & HYDROCARBON SENSOR MODULE 3L-DF/SM50-HC

3L-DF/SDP is a Hydrocarbon Liquids Leak Locating & Detection System Panel that operates with Sensor Module 3L-DF/SM50-HC

### OPERATING PRINCIPLE:

- Panel (3L-DF/SDP) monitoring leak through sensor modules (3L-DF/SM50-HC).
- Each sensor module is connected with a cut-to-length (1m ~ 15m) sensing cable (3L-HCS).
- Panel provide power directly to each sensor module.
- Reliable frequency modulation is used for the digital communication between the panel and the modules.
- Any short circuits along the line do not affect the previous sensor module on the circuit. The shorts are identified as faults to the nearest non-communicating sensor module.
- Each sensor module is independent and able to detect multi-leak (total number of multi-leak = number of sensor module installed).
- Nuisance alarm management: when leak is detected at sensor module, leak level is being transmitted to panel as a digital value between 1 and 9. It allows easy filtering of unwanted alarms at panel.
- All sensing wires are supervised for breaks which are located to the nearest sensor module.
- Redundancy feature: Fail-Safe Loop Back or Token Ring connection capability. (continues to detect leaks even cable break at 1st meter of sensing cable).

## GENERAL FEATURES

(Panel: 3L-DF/SDP & Sensor Module: 3L-DF/SM50-HC):

- Maximum length of sensor circuit (including jumper cable and diversions) : 4000m
- Maximum length of sensing cable per sensor module : 15m
- Number of sensor module on same circuit : 40
- Precision to locate leak location : +/- 1m or +/- 0.5%
- Maximum voltage on circuit wires : 15VDC
- Input voltage : 110-240VAC OR 12-24VAC/VDC (Optional)
- Power consumption : 4.5VA or 4W
- Alarm dry contact/relay : Operation – SPDT, Switch current – 0.5A at 250VAC, 1A at 30VDC
- Serial communication interface (Modbus Protocol) : RS485-two-wire, ESD & surge protected as per IEC 6100-4-5
- Touchscreen interface (Human Machine Interface - HMI) : Optional - multi-zone touchscreen of 3L-TP/12 connectable via RS485 to 3L-DF/SDP
- Size of 3L-DF/SDP : 4 modules MS36 DIN-Rail (Dim:L=86 x W=70 x H=58mm) (Optional: IP65 Wall Mount Box)
- Size of 3L-DF/SM50-HC : Rugged UV stable Polyamide encapsulated case with UL-94-V-0 approved (Dim: L=75 x W=16 x H=15. comparable to the size of a “AA” battery)
- Operating ambient temperature : 0° to 40°C (indoor installation only)
- Storage temperature : -20° to 70°C
- Humidity : 5% to 95% non-condensing
- EMC emission : IEC61000-6-3(2001)-Electromagnetic compatibility Generic emission standard for residential, commercial & light industrial environment
- EMC immunity : IEC61000-6-1(2001)-Electromagnetic compatibility Generic immunity standard for residential, commercial & light industrial environment

## TYPICAL SCHEMATIC DIAGRAM

