

MTL ICC300 SERIES



ICC353 3-channel switch and proximity detector relay



- ◆ **Three port isolation between inputs, outputs power supply**
- ◆ **Optional 24V switch interrogation voltage version**
- ◆ **Solid state outputs**
- ◆ **Line fault detection facilities**
- ◆ **T- or G- section DIN-rail mounting.**

The ICC353 is a 3-channel switch and proximity detector relay with solid state outputs. Each channel is provided with switches, located on top of the unit for easy accessibility, for phase reversal and for implementing line fault detection. The phase reversal feature enables output conditions to be set for either state of the sensor while the line fault detection (LFD) function, when switched on, opens the output if the lines are short- or open-circuited. The latter is primarily intended for use with proximity detectors but can also be used with switches by adding two resistors to the input circuit as shown in the circuit diagram. LEDs on top of the unit indicate POWER ON and the status of each channel. The switch input, output and power supply sections are isolated from each other although individual switch input circuits share a common connection as also do the individual optocouplers.

The open collector output has a large current drive capacity of 500mA and the switch interrogation voltage is factory-set at either 24V or 8.25V - see 'specification' for option details. The units, housed in 40mm polyamide casings, mount directly onto T- or G-section DIN rail.

SPECIFICATION

Number of channels

Three, interconnected, fully floating

Voltage applied to sensor - options

ICC353-T1 : 24V dc $\pm 10\%$ from 3k Ω

ICC353-T2 : 7.5V to 9.0V dc from 1k Ω

Input/output characteristics (each channel)

Output closed : if $> 2.1\text{mA}$ in sensor circuit

Output open : if $< 1.2\text{mA}$ in sensor circuit

Hysteresis : 200 μA nominal

(according to NAMUR and DIN 19234 standards for proximity detectors)

Phase reversal facility

Operations of all the channels reversed by independent switches on top of the unit

Power supply failure protection

Output circuit opens if supply fails

Broken/shorted line protection (LFD)

Line fault detection for each channel enabled by independent switches on top of the unit

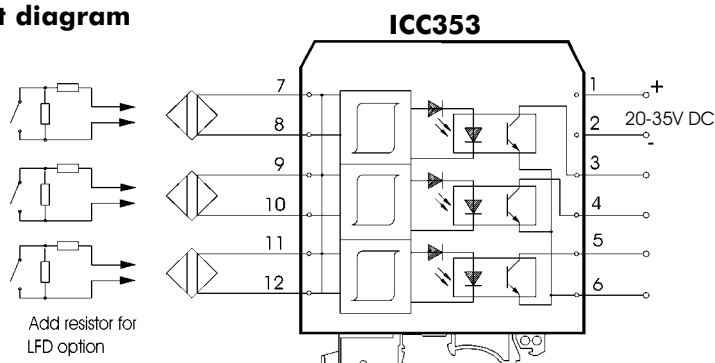
Output open : if input current $< 100\mu\text{A}$ (broken lines)

Output open : if input current $> 6.5\text{mA}$ (shorted lines)

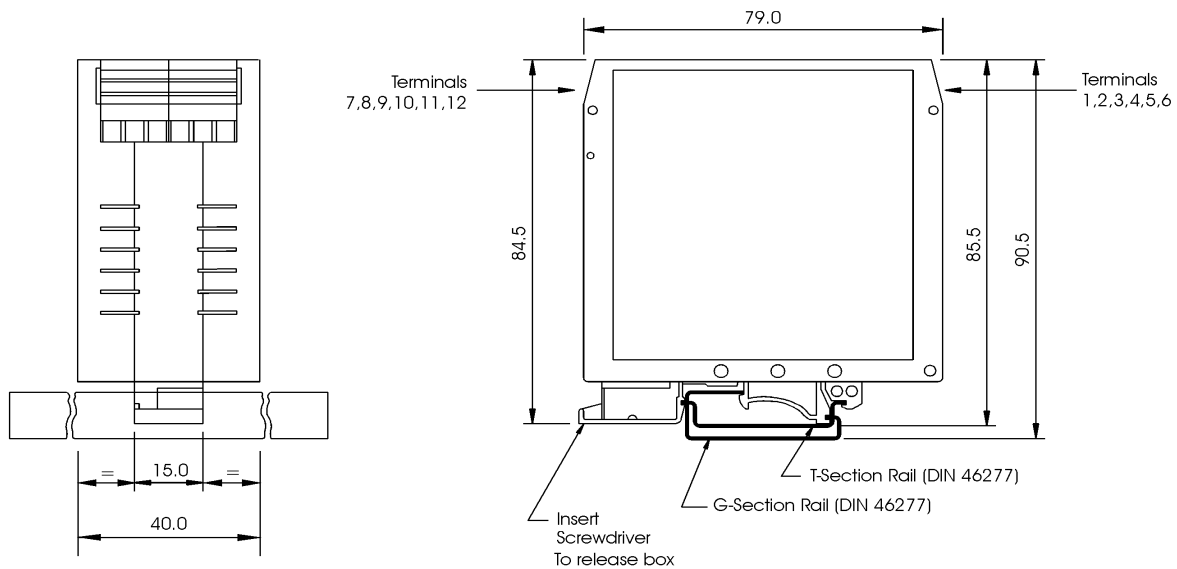
Note : To prevent false triggering of LFD switch type sensors must be fitted with resistors (values specified in instruction manual) as shown in the circuit diagrams else LFD must be disabled

(specification continued overleaf)

Circuit diagram



Dimensions and mounting (in mm)



Output characteristics

Open collector output provided
 Maximum off-state voltage : 26V DC
 Maximum off-state leakage current : $10\mu\text{A}$
 Maximum on-state voltage drop : 1.5V DC
 Maximum on-state current : 500mA

Response time

15ms typical

LED indicators

Red : One provided for status indication of each channel
 Green : One provided for POWER ON indication

Power supply voltage (V_s)

20 - 35V DC

Power requirement

OPTION	@20V DC	@24V DC	@35V DC
T1	100mA	85mA	65mA
T2	75mA	65mA	50mA

Isolation (between Input, outputs & power supply)

1500V DC/AC

Common mode rejection ratio

150dB typical

RFI susceptibility

Conforms to IEC801.3

Ambient Temperature limits

-20 to +55°C (operating)
 -40 to +80°C (storage)

Humidity

5 to 95% RH, non-condensing

Terminals

Accommodate 2.5mm^2 conductors

Casing

40mm width polyamide casing

Mounting

Directly onto T or G section DIN rail to DIN 46277

Specifications subject to change without notice

TO ORDER

ICC353-T1 (For 20-35V supply, 24V at $3\text{k}\Omega$ switch interrogation voltage)

ICC353-T2 (For 20-35V supply, 7.5V to 9.0V at $1\text{k}\Omega$ switch interrogation voltage)

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