MTL ICC300 SERIES

ICC316 general purpose indicating trip amplifier

- **Choice of one or two relay alarm outputs**
- **Choice of two SPST or one DPST outputs**
- **Phase reversal facilities for both relays**
- **4 to 20mA or 1 to 5V inputs**
- **10A relay contacts**
- **0.2% display/trip accuracy**
- **$3^1/_2$-digit 7-segment LED display**
- **Provides transmitter supply**
- **T- or G-section DIN-rail mounting**

The ICC316 is an independently powered low-cost general-purpose indicating trip amplifier with relay outputs. It accepts inputs from 4 to 20mA or 1 to 5V sources and provides a transmitter power supply. A $3^1/_2$- digit seven-segment LED display shows inputs or set-points in percentages from 0 to 100. Phase reversal switches for relays are located at the top of the unit; these provide alternatives of 'normally energised' or 'normally de-energised' operation. Hysteresis of approximately 1.5% of span is provided to prevent the relays hunting. Set-point adjustment is provided for each channel by multi-turn trimpots accessible through the top of the unit.

SPECIFICATION

Number of channels
One

Input signals
4 to 20mA current source between terminals 11 (+ve) and 12
4 to 20mA current sink between terminals 9 (+ve) and 11
1 to 5V dc between terminals 10 (+ve) and 12

Input impedance
<10Ω + 0.3V max for 4 to 20mA input
>100kΩ for 1 to 5V input

Power supply
20 to 35V dc

Transmitter supply
20V min at 20mA between terminals 9 and 11

Output relay characteristics
Each output single pole normally open
Contact rating: 250V ac/10A, 2.5kVA resistive
30V dc/10A, 300W resistive
Contact life expectancy: 10^5 operations at maximum load
Note: *reactive loads must be suppressed sufficiently*

LED indicators
One red LED for each output: ON when relay activated.
One green LED indicating POWER ON.

Parameter monitoring
0 to 100% through a $3^1/_2$ - digit 7-segment LED display

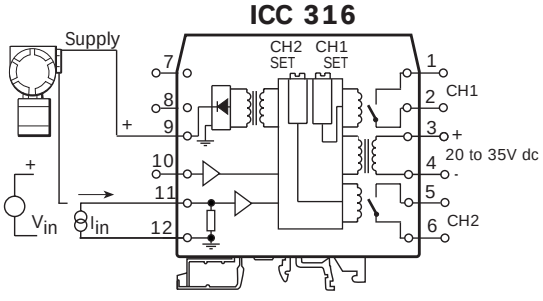
Accuracy (including non-linearity) at 25°C
Display: <0.1% of span ±1 digit
Trip: <0.2% of span ±1 digit

Temperature drift
<0.01% of span/°C

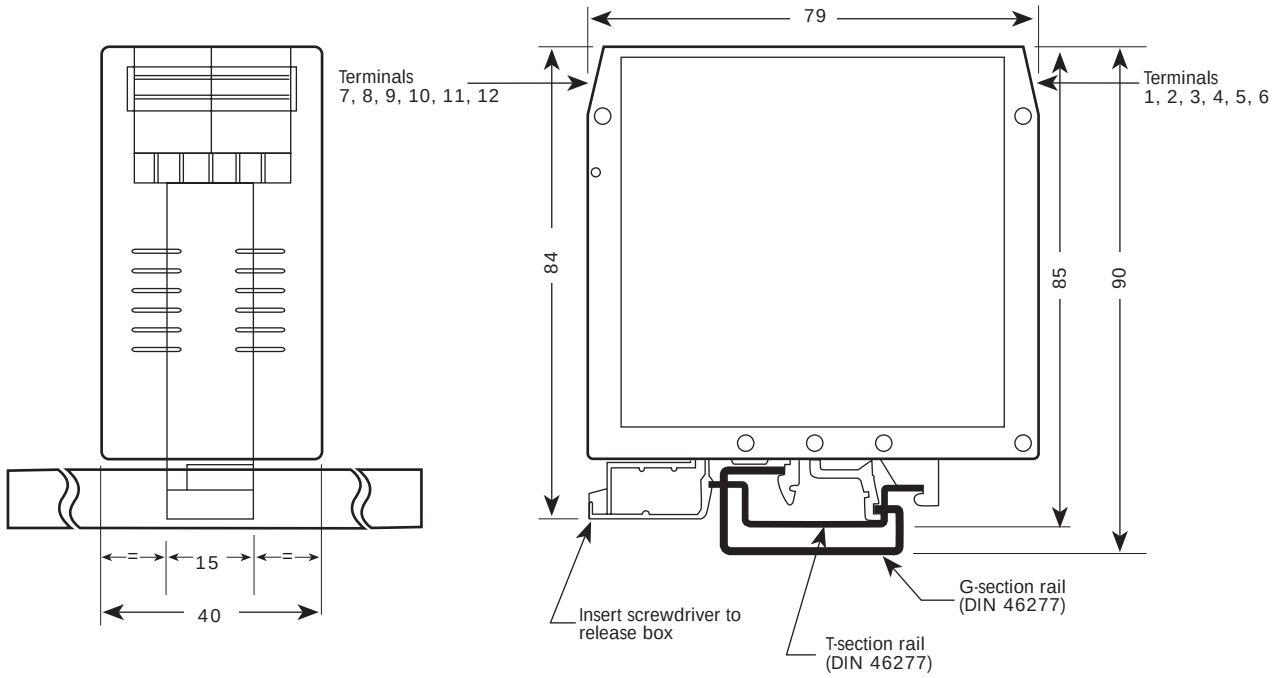
Response time
Relay: 300ms
Display, to reach 99.9% of span: 700ms

(specification continued overleaf)

Circuit diagram



Dimensions and mounting (in mm)



Hysteresis
1.5% of span (typical)

Set-point adjustment
5 to 95% of the input

Isolation between power supply, input and each relay output
1500V dc/ac

Power requirements (powering a transmitter at 20mA, display and relays ON)
20 to 35V dc, 3.85W maximum
110mA at 35V dc maximum
170mA at 20V dc maximum

Power requirements (accepting a 20mA input, display and relays ON)
80mA at 35V dc maximum
110mA at 20V dc maximum

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 DIN46277

TO ORDER:–

ICC316-T1	Trip amplifier with one set-point and one SPST output
ICC316-T2	Trip amplifier with two set-points and two SPST outputs
ICC316-T3	Trip amplifier with one set-point and one DPST output

Specification subject to change without notice

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