



MULTIPLIER

TYPE 107-12A

Features

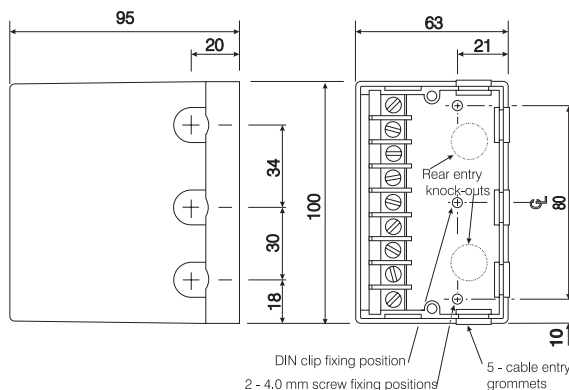
- Wide range of input and output types
- Accepts a mix of different input types
- Performs input / output signal level changes

The 107-12A provides an analogue output signal proportional to the multiplication of two analogue input signals. The multiplier can also be configured to function as a squarer.

True or live zero (e.g. 4-20 mA) input signals can be accommodated. Input signals may be of different types i.e. current or voltage, different spans and true or live zero. All inputs must be able to share a common connection. If they cannot be joined, an isolator module must be used to isolate the signals.



DIMENSIONS



Information required when ordering

- Engineering Units represented by each Input at FSD.
- Engineering Units represented by Output at FSD.
- Or alternatively Constants a,b,c and k.
- Input Signals (see specification overleaf).
- Output Signal (see specification overleaf).
- Supply Voltage and Frequency.

SPECIFICATION

INPUTS

0-10 mA into 100 ohms
0-20 mA into 50 ohms
4-20 mA into 62.5 ohms
0-5v into greater than 1 M ohms
1-5v into greater than 1 M ohms

OUTPUTS

0-10 mA into 2000 (5000) ohms max
0-20 mA into 1000 (2500) ohms max
4-20 mA into 1000 (2500) ohms max
0-5v into 500 ohms min
1-5v into 500 ohms min
Current Sink 4-20mA @ 50 Volts max.

} figures in brackets are options

FUNCTION

Output = (A + a) (B + b) x k + c, where A and B are inputs and a, b, c and k are constants.

CALIBRATED ACCURACY

Set at 100% to be within $\pm 0.2\%$ FSD.

LINEARITY ERROR

$\leq \pm 0.4\%$ FSD.

SUPPRESSION/ELEVATION ERROR

$\leq \pm 0.1\%$ FSD.

OUTPUT RIPPLE

$\leq 0.1\%$ (Peak to Peak) of FSD.

LOAD RESISTANCE EFFECT

$\leq 0.001\%$ of span/100 ohms change.

ISOLATION

The inputs and output are not isolated from each other, but are isolated from the power supply.

STABILITY

Over 24 hrs $\pm 0.05\%$ FSD.

Over 1 year $\pm 0.1\%$ FSD.

INTERFERENCE REJECTION

Filtering is incorporated to reject R.F. and other industrial noise.

SERIES MODE REJECTION

$< 0.2\%$ error for 50 Hz RMS

Signal equal to 50% span

INPUT OVER-RANGE PROTECTION

250 volts RMS or DC (voltage inputs only)

TEMPERATURE COEFFICIENTS

Zero: $\pm 0.02\%$ span/ $^{\circ}\text{C}$

Span: $\pm 0.02\%$ span/ $^{\circ}\text{C}$

TEMPERATURE RANGE

Operating: -10°C to $+60^{\circ}\text{C}$

Storage: -20°C to $+70^{\circ}\text{C}$

SUPPLY VOLTAGE REJECTION

Output change $< 0.01\%$ span/% supply change.

POWER SUPPLY

AC versions: 110, 220, 240V $\pm 10\%$ 50/60Hz 5VA

Fuse (internal) 100mA quick-blow (20 x 5mm)

DC versions: 12, 24, 48V -10% $+20\%$ 3.5W

Fuse (internal) 250mA anti-surge (20 x 5mm)

ENCLOSURE DETAILS

Base: Phenol (black)

Cover: Polystyrol (light grey)

Protection: IP40

SAFETY & EMC

Safety: EN61010-1 Immunity: EN50082-1

Emissions: EN50081-1 CE certified

WEIGHT

Approximately 0.5 kg

ELECTRICAL CONNECTIONS



WARNING: these details are provided for pre-sales information only. Installation must be carried out in accordance with the User Guide

Supply

1 — Line
2 — Neutral
3 — Earth

} AC
Mains
Supply

Positive (+)	} DC Supply Option
Negative (-)	
Earth	

Output

4 — Output (-)
5 — Output (+)

6 — reserved

Input

7 — Input signal A (+)
8 — Input common (0v)
9 — Input signal B (+)

Please Note: Options are not available unless specified at time of order.



WARNING: REFER TO USER GUIDE FOR SAFETY INSTRUCTIONS - THIS UNIT CAN BE MAINS POWERED AND ALL INPUTS TO IT MUST BE ISOLATED FROM DANGEROUS VOLTAGES BEFORE THE FRONT COVER IS REMOVED. LIVE TERMINALS WILL BE EXPOSED.

Continuous development may necessitate changes in these details without notice

SIL

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