

5 Channel Isolation Amplifier Type M9644



Technical description

This interface utilizes an isolating amplifier channel to galvanically isolate DC current signals without a power supply.

The M9644 can be delivered up to five self-contained isolating amplifier channels.

The input current signal can be in the range of 0...27mA.

The DC signal is converted to an AC signal by a chopper, transformed 1:1

to the secondary of a transformer, rectified and ripple rejected by a filter, thus restoring the original DC current signal.

The output may be on a common mode voltage or on different grounds and feeds remote displays, recorders, PLC's analog input, computers etc.

Applications:

Heating, air conditioning, signal isolation, data logging etc.

Technical Data

Input

Input current (I_E): 0...5mA, 0...20mA, 4...20mA, max. 27mA
 Max. Input current: 50mA (= thermal limitation)
 Max. Input voltage (U_E): +20V
 Max. voltage drop: $\cong 3,7V$

Output

No. of outputs: 2...5 pieces, galvanically isolate, non-interacting
 Current transfer ratio ($I_E: I_A$): 1,0 : 1,0
 Load: $\leq 500\Omega$
 Transfer gain error: Typ. $\pm 0,1\%$
 Output ripple: 0,9% ($R_L=300\Omega, I_A=20mA, f=1,8kHz$)
 Rise time: Typ. 75ms
 Working temperature range: -10 to +60°C (max. $\pm 0,1\%/20mA$)

Coupling

Internal oscillator: Typ. 1,8kHz with MosFet-switches
 Max. common mode voltage (U_{cmv}): 230Veff, V_{TEST} 2500Veff/1minute.
 Operation principle: The input current is chopped with 1.8kHz, transformed from the primary to the secondary by a transformer, rectified and filtered, see block diagram

Power supply: 24VDC, -10...20%
 Power supply load: < 5 Watt
 CE conformity: fulfilled

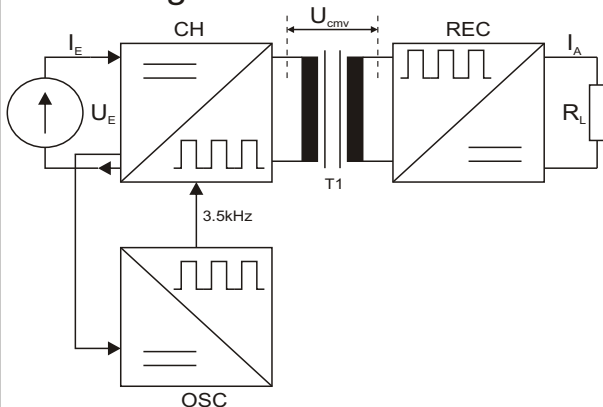
Mechanical Data

Terminals: Terminal 32pole; DIN41612, A+C used

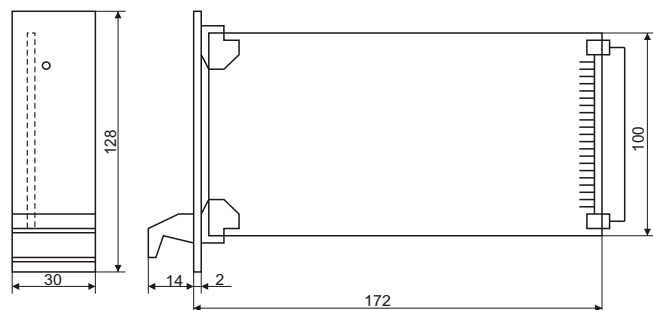
Terminal description:	2ac channel 1 +	4ac channel 1 -
	6ac channel 2 +	8ac channel 2 -
	10ac channel 3 +	12ac channel 3 -
	14ac channel 4 +	16ac channel 4 -
	18ac channel 5 +	20ac channel 5 -
	24ac option 2-wire transmitter (+24VDC)	
	26ac power supply +	28ac power supply -
	30ac signal input+	32ac signal input -

Dimensions: W x H x D = 30 x 128 x 172 mm, 6 TE, 3 HE, system "Schroff"
 Weight: 300 g
 Warranty: 2 years

Block diagram:



Dimensions in mm:



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