

Lightweight Shunts

TM Series

Application

This lightweight range is specifically suitable for applications where there are space and/or weight limitations in the installation such as in portable equipment, compact electronic instrumentation, mobile installations such as tanks and aircraft etc.

In addition to ammeters, shunts can be used to measure and/or monitor current in a wide range of measurement, protection and control devices.

The TM series lightweight shunts are manufactured to comply with the U.S.A. military specification MIL - S161B. Standard outputs give 50mV potential drop.

By careful design and choice of materials, it has been possible to produce a high performance shunt which is mechanically strong, light in weight and of extremely compact dimensions with the ability to withstand high overloads without damage and possessing long term calibration stability.

Features

- ✓ Compact space-saving design
- ✓ Accuracy $\pm 0.25\%$
- ✓ Insulated base mounting
- ✓ USA Mil. spec MIL-S-61B
- ✓ Temperature coefficient 0.002% per 1°C
- ✓ High overload withstand

Specification

Ratings :	5-1200A
Accuracy:	$\pm 0.25\%$
Outputs:	50mV or 100mV Refer to Factory for other outputs
Overload withstand:	1.2 x rated current continuously
5 Second Withstand:	10-150A = 10 x rated current 151-600A = 5 x rated current 601-1200A = 2 x rated current
Temperature Co-efficient:	0.002% per $^{\circ}\text{C}$ overall
Ambient temperature:	Calibrated for 20°C , they can be used in ambient range -20°C to $+60^{\circ}\text{C}$
Temperature Rise:	A momentary rise up to 200°C will not affect the performance of these shunts. When mounted as recommended in freely circulating air the temperature rise should not exceed 100°C .

Maximum Load Indicator:

20mA

The TM series is designed to comply with U.S. military specification MIL-S-61B. Its performance meets all requirements including those covering dielectric withstanding voltage, voltage drop, sustained load, overload

Construction

The end blocks are machined from solid section, high conductivity brass. They each carry two terminals, current connection is made by either threaded studs or bolts depending on the model, terminals for potential lead connection are provided by 2 screws with spring and plain washers.

The resistance elements are made from manganin sheet for its low temperature co-efficient and long term stability and strength, hard soldered into slots in the end blocks.

The shunt is mounted on a high strength black phenolic base with integral fixing holes.

Installation

The heat generated by the current is dissipated by conduction through the busbar or cable and by convection in the air. The shunt temperature should not exceed 145°C . Conductors must be of adequate csa and contact surface clean and level.

Ensure clamping bolts or nuts and washers are sufficiently tight. Shunts above 100 amps should be mounted with leaves vertical and longitudinal axis horizontal. Where this is impractical, forced-air cooling may be necessary to limit the temperature to 145°C .

Potential Leads

The resistance of the leads from the potential terminals must be taken into account when the instrument is calibrated. Details of standard lead lengths and resistances are available on request.

Warning

Shunts are not fully insulated and protection against accidental contact should be provided.

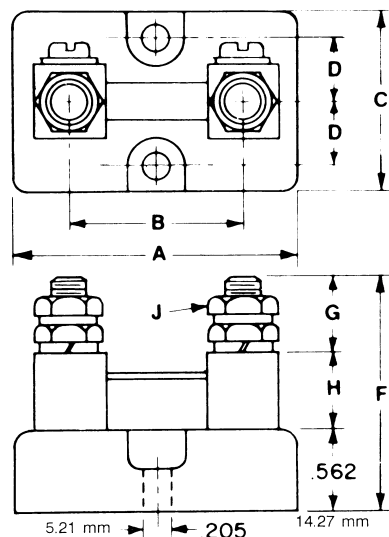


Lightweight Shunts

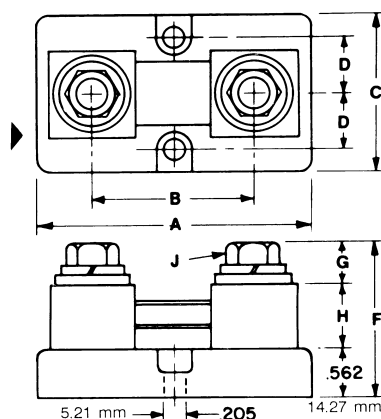
TM Series

Dimensions

TM 5 THROUGH 150 AMPERES



TM 170 THROUGH 1200 AMPERES



50 MV

CATALOG No.	AMP	A		B		C		D		F		G		H		J	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	mm	in
TM-5-50	5	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-10-50	10	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-15-50	15	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-20-50	20	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-30-50	30	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-50-50	50	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-75-50	75	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-80-50	80	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-85-50	85	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-100-50	100	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-150-50	150	50.8	2	25.4	1	31.75	1¼	11.1	437	42.88	1.688	15.88	625	12.7	½	6.35-28	¼-28
TM-170-50	170	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-200-50	200	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-250-50	250	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-300-50	300	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-400-50	400	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-450-50	450	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-500-50	500	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-600-50	600	82.55	3¼	38.1	1½	44.45	1¾	15.88	625	44.45	1¾	11.13	438	19.05	¾	9.53-16 x 15.88	¾-16 x ⅝
TM-800-50	800	114.3	4½	54.86	2.16	63.5	2½	25.4	1	53.98	2.125	14.28	562	25.4	1	12.7-13 x 22.23	½-13 x ⅞
TM-1000-50	1000	114.3	4½	54.86	2.16	63.5	2½	25.4	1	53.98	2.125	14.28	562	25.4	1	12.7-13 x 22.23	½-13 x ⅞
TM-1200-50	1200	114.3	4½	54.86	2.16	63.5	2½	25.4	1	53.98	2.125	14.28	562	25.4	1	12.7-13 x 22.23	½-13 x ⅞

Tolerances ± 0.381 mm (0.015 in) for hole diameters, other tolerances ± 0.762 mm (0.030 in) unless otherwise noted.
Dimensions are subject to change without notice.