

# Lightweight Shunts

## 870 Series

### Features

- »» Compact space-saving design
- »» Accuracy class 0.5
- »» Insulated base mounting
- »» USA Mil. spec MIL-S-61B
- »» Temperature coefficient 0.002% per 1°C
- »» High overload withstand
- »» ABS American Bureau of Shipping Approved



*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 870 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.*

### Specification

#### Ratings

model:	871	10 - 150A
	872	151 - 600A
	873	601 - 1200A

**Accuracy class:** 0.5 (0.25 USA)

**Output:** 50mV (std)  
75, 100 and 150mV available

**Temperature Co-efficient:** 0.002% per °C overall

**Ambient temperature:** Calibrated for 20°C, they can be used in ambient range -20°C to +60°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 870 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 UNC 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.

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 cross sectional area and contact surface clean and level, with a thin coating of silican grease applied to the contact surface area.

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 may be necessary in order to comply with Health and Safety regulations.

### Installation

**Crompton**  
INSTRUMENTS

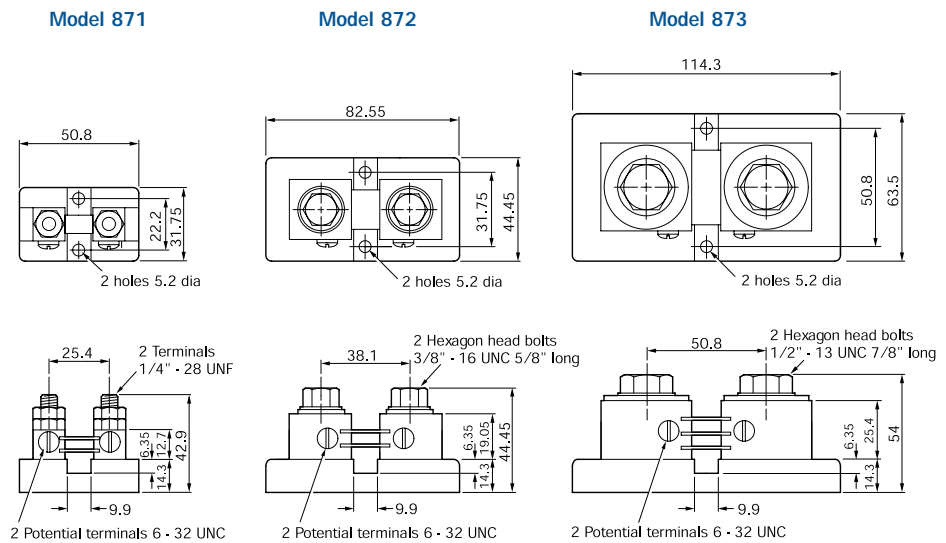
Shunts

# Lightweight Shunts

## 870 Series

MIL specification Type Designation	Current Rating (Amperes)	Catalogue N°
<b>Model 871 50mV</b>		
MSA100	10	871-92VU-MTEC
MSA150	15	871-92VU-NDEC
MSA200	20	871-92VU-NGEC
MSA300	30	871-92VU-NLEC
MSA500	50	871-92VU-NTEC
NIL	60	871-92VU-NWEC
MSA750	75	871-92VU-PBEC
MSA800	80	871-92VU-PDEC
MSA850	85	871-92VU-PFEC
MSA101	100	871-92VU-PKEC
MSA151	150	871-92VU-PZEC
<b>Model 872 50mV</b>		
MSB171	170	872-92VU-RDEC
NIL	175	872-92VU-REEC
MSB201	200	872-92VU-RLEC
MSB251	250	872-92VU-RSEC
MSB301	300	872-92VU-RXEC
MSB401	400	872-92VU-SCEC
MSB451	450	872-92VU-SDEC
MSB501	500	872-92VU-SFEC
MSB601	600	872-92VU-SJEC
<b>Model 873 50mV</b>		
MSC801	800	873-92VU-SNEC
MSC102	1000	873-92VU-SSEC
MSC122	1200	873-92VU-SUEC

### Dimensions



Dimensions are in millimetres. 1mm = 0.0394 inches



Shunts