

## 078/080/087 Series 240° scale

The Crompton 078/080/ 087 Series of heavy duty sealed instruments are designed to comply with the most stringent industrial, marine and military specifications. This metal cased range offers bezel sizes of 57mm, 83mm and 110mm which are fitted with toughened glass. Indicators comply with Ministry of Defence specification DEF STAN 66.7. and operate efficiently in the most adverse environments where extreme conditions of shock, vibration, dirt, humidity and temperature variation are present.

### Description

Metal cases with bezel sizes of 57 x 57mm (083), 83mm Ø (084) and 110mm x 110mm (078/087) fitted with toughened glass windows, are used throughout the series in standard matt black finish, which can be replaced with the optional light admiralty grey to BS3181C No:697. In order to avoid fogging they are dried, evacuated and filled with dry nitrogen.

The sealing provided is such that with the interior of the case is maintained at a constant pressure of at least 94kPa above the exterior, the leakage does not exceed the equivalent of 1.33 Pa ml/s of air. Except on model 083, panel sealing gaskets are provided as standard.

Standard instrument dials are finished in acrylic matt white with black printing and a parallel pointer. The scales form a true arc with zero on the left hand-side. Options available include dial illumination, a centre zero, off-set zero or suppressed zero, colour index lines, bands, zones or segments, black dial with white printing, and customers logo.

### Features

Designed specifically for stringent industrial, marine and military specifications

An extensive range of high accuracy measuring instruments in 3 case sizes

Rugged Hi-Q taut-band suspension

Bump, shock and vibration proof

### Benefits

Complies with BS EN 60051 (IEC51)

IP67 (NEMA 6 and 6P) protection

Dial illumination option

Parallax error-free platform dials for 078/087. Optional for 083/084

### Applications

Switchgear

Distribution systems

Generator sets

Control panels

Utility power monitoring

Process control

Motor control

Marine

Military

### Approvals

DEF STAN 66.7

Intrinsically safe options to EEx ia 11C T4

### Specification

Performance:	BS EN60051 (IEC51) DEF STAN 66-7 on request (087 only)
Accuracy:	Refer to Product Range table
Scaling:	BS89, BS3693 or DEF STAN 66-7 and 66-9
Dielectric Test:	2kV r.m.s to BSEN61010-1
Overloads:	x 1.2 rated current for 2 hours x 10 rated current for 5 seconds x 1.2 rated voltage for 2 hours x 2 rated voltage for 5 seconds
Enclosure Code:	IP67 (NEMA 6 & 6P)
Case:	Matt black metal filled with dry nitrogen
Bezel:	Matt black metal. Optional admiralty grey No. 697
Bezel Window:	Toughened glass
Operating Temp.:	-40°C to +70°C (-40°F to +158°F)
Storage Temp:	-55°C to +85°C (-67°F to 185°F)
Standard Calibration:	23°C (73°F)
Approvals:	EMC and LVD. DEF 66.7 Intrinsically safe option to EEx ia 11C T4

## Product Range – 078/080/087 Series 240° scale

Type of Instrument	Ranges	Accuracy Class	Burden VA	Case Code				Product Code
				Depth behind the Bezel				
A.C. Ammeter Moving Iron	0.75-20A	2.5	2	57	-	-	-	083-03A
A.C. Ammeter Moving Iron	0.75-20A	1.5	2	-	59	-	-	084-03A
A.C. Ammeter Moving Iron	0.5-30A	1.5	2	-	-	86	-	078-08A
A.C. Ammeter Moving Iron	0.5-30A	1.5	2	-	-	-	86	087-08A
A.C. Voltmeter Moving Iron	5-800V	2.5	5	57	-	-	-	083-03V
A.C. Voltmeter Moving Iron	5-800V	1.5	5	-	59	-	-	084-03V
A.C. Voltmeter Moving Iron	5-800V	1.5	5	-	-	86	-	078-08V
A.C. Voltmeter Moving Iron	5-800V	1.0	5	-	-	-	86	087-08V
D.C. Ammeter Shunt Operated	50, 60, 75, 100, 150mV	2.5	See T118***	57	-	-	-	083-05A
D.C. Ammeter Shunt Operated	50, 60, 75, 100, 150mV	1.5	See T118***	-	59	-	-	084-05A
D.C. Ammeter Shunt Operated	50, 60, 75, 100, 150mV	1.5	See T118***	-	-	86	-	078-05A
D.C. Ammeter Shunt Operated	50, 60, 75, 100, 150mV	1.5	See T118***	-	-	-	86	087-11A
D.C. Ammeter	200µA-30A	2.5	See T118***	57	-	-	-	083-05A
D.C. Ammeter	200µA-30A	1.5	See T118***	-	59	-	-	084-05A
D.C. Ammeter	200µA-30A	1.0	See T118***	-	-	86	-	078-05A
D.C. Ammeter	200µA-30A	1.0	See T118***	-	-	-	86	087-11A
D.C. Ammeter Suppressed Zero	4/20mA	2.5	See T118***	57	-	-	-	083-05R
D.C. Ammeter Suppressed Zero	4/20mA	1.5	See T118***	-	59	-	-	084-05R
D.C. Ammeter Suppressed Zero	4/20mA	1.5	See T118***	-	-	86	-	078-05R
D.C. Ammeter Suppressed Zero	4/20mA	1.5	See T118***	-	-	-	86	087-11R
D.C. Voltmeter	50mV-600V	2.5	See T118***	57	-	-	-	083-05V
D.C. Voltmeter	50mV-600V	1.5	See T118***	-	59	-	-	084-05V
D.C. Voltmeter	50mV-800V	1.5	See T118***	-	-	86	-	078-05V
D.C. Voltmeter	50mV-800V	1.0	See T118***	-	-	-	86	087-11V
D.C. Voltmeter Suppressed Zero	1/5V	1.5	See T118***	-	-	86	-	078-05S
D.C. Voltmeter Suppressed Zero	1/5V	1.5	See T118***	-	-	-	86	087-11S
A.C. Rectified Ammeter	200µA-1A	2.5	See T118***	57	-	-	-	083-05B
A.C. Rectified Ammeter	200µA-1A	2.5	See T118***	-	59	-	-	084-05B
A.C. Rectified Ammeter	200µA-30A	1.5	See T118***	-	-	86	-	078-05B
A.C. Rectified Ammeter	200µA-30A	1.5	See T118***	-	-	-	86	087-11B
A.C. Rectified Voltmeter	15-600V 25Hz/3kHz	2.5	See T118***	57	-	-	-	083-05W
A.C. Rectified Voltmeter	15-600V 25Hz/3kHz	2.5	See T118***	-	59	-	-	084-05W
A.C. Rectified Voltmeter	15-600V 25Hz/3kHz	1.5	See T118***	-	-	86	-	078-05W
A.C. Rectified Voltmeter	15-600V 25Hz/3kHz	1.5	See T118***	-	-	-	86	087-11W
Elapsed Time Meter	50 or 60Hz, 100-400V*			57	-	-	-	083-155 or 156
Elapsed Time Meter	12, 24V D.C.			57	-	-	-	083-151
Elapsed Time Meter	50 or 60Hz, 100-400V*			-	59	-	-	084-155 or 156
Elapsed Time Meter	12, 24V D.C.			-	59	-	-	084-151
Elapsed Time Meter	50 or 60Hz, 100-400V*			-	-	86	-	078-155 or 156
Frequency Meter	50/60/400Hz 100-440V*	0.5%	4	57	-	-	-	083-41S
Frequency Meter	50/60/400Hz 100-440V*	0.5%	4	-	59	-	-	084-41S/089-41S
Frequency Meter	50/60/400Hz 100-440V*	0.5%	4	-	-	86	86	078/087-41L
Temperature Indicator	RTD	1.5	See T118***	-	-	86	-	078-45 R
Wattmeter or Varmeter	0.2-10A/100-440V*	Balanced	Current	-	-	132	132	078/087-21 or 31
360° Power Factor Meter	1 or 5A 100-440V* 50 or 60Hz	2°		-	-	132	132	078-13
360° Power Factor Meter	1 or 5A 100-440V* 50, 60 or 400Hz	2°		-	-	132	132	087-13
360° Rotary Synchroscope	100/125V, 200/250 380/450**	2°		-	-	132	132	078/087-14
Transducer Operated Indicator	1, 5, 10, 20 or 4/20mA	1.0	See T118***	57	-	-	-	083-05
Transducer Operated Indicator	1, 5, 10, 20 or 4/20mA	1.0	See T118***	-	59	-	-	084-05
Transducer Operated Indicator	1, 5, 10, 20 or 4/20mA	1.0	See T118***	-	-	86	-	078-05
Transducer Operated Indicator	1, 5, 10, 20 or 4/20mA	1.0	See T118***	-	-	-	86	087-11

\* 100-440V = (100/125, 200/250, 380/440)

\*\* Using transformer box 855-954

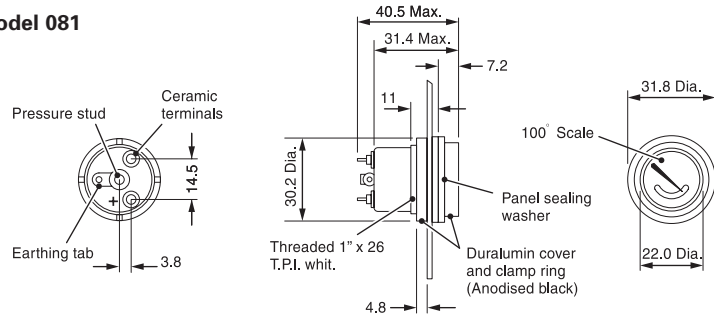
\*\*\* T118 is a Technical Sheet available on request.

For specification and connection diagrams, please refer to equivalent models in the 240 Series DIN Panel Meter section. Replace 244 with 078 etc., e.g. 244-210 becomes 078-210.

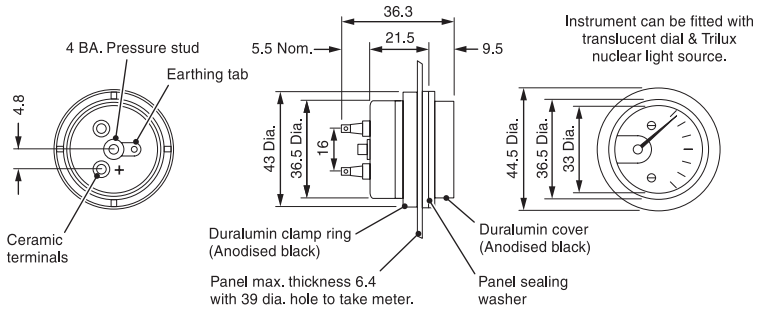


## Dimensions

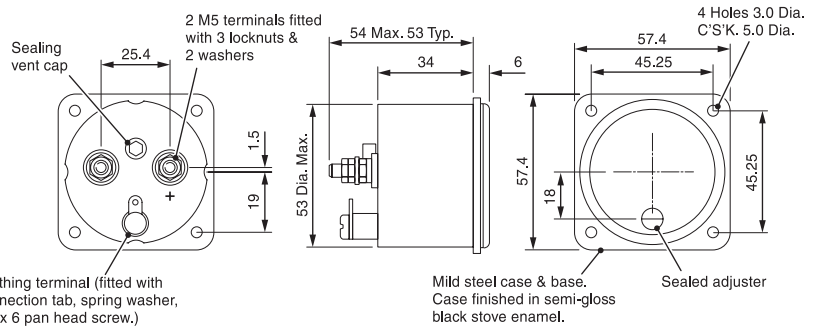
### Model 081



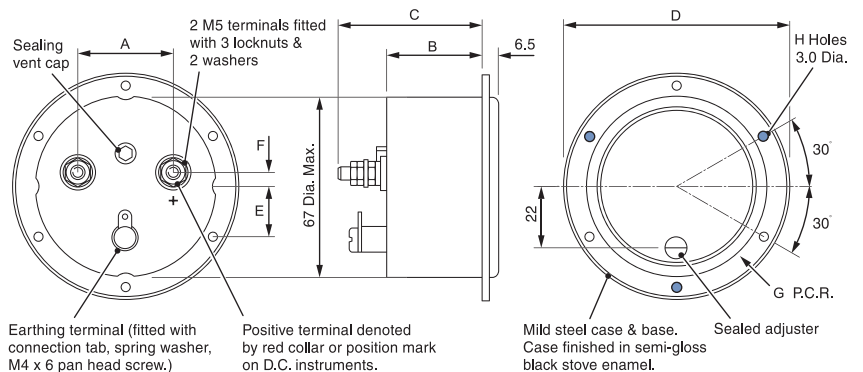
### Model 082



### Model 083



### Model 084/089



\*When fitted with terminal shunt for ranges above 20 amps.

	A	B	C	D	E	F	G	H
084-80	35	33.5	59	82.5	20	5	36.5	6 off
089-80	35	33.5	59	88.9	20	5	36.5	3 off
084-75	35	38	64	82.5	20	5	36.5	6 off
089-75	35	38	64	88.9	20	5	36.5	3 off

Panel Cut out 68.3ø - Holes 3.8ø

These ● holes on 084 only.

