

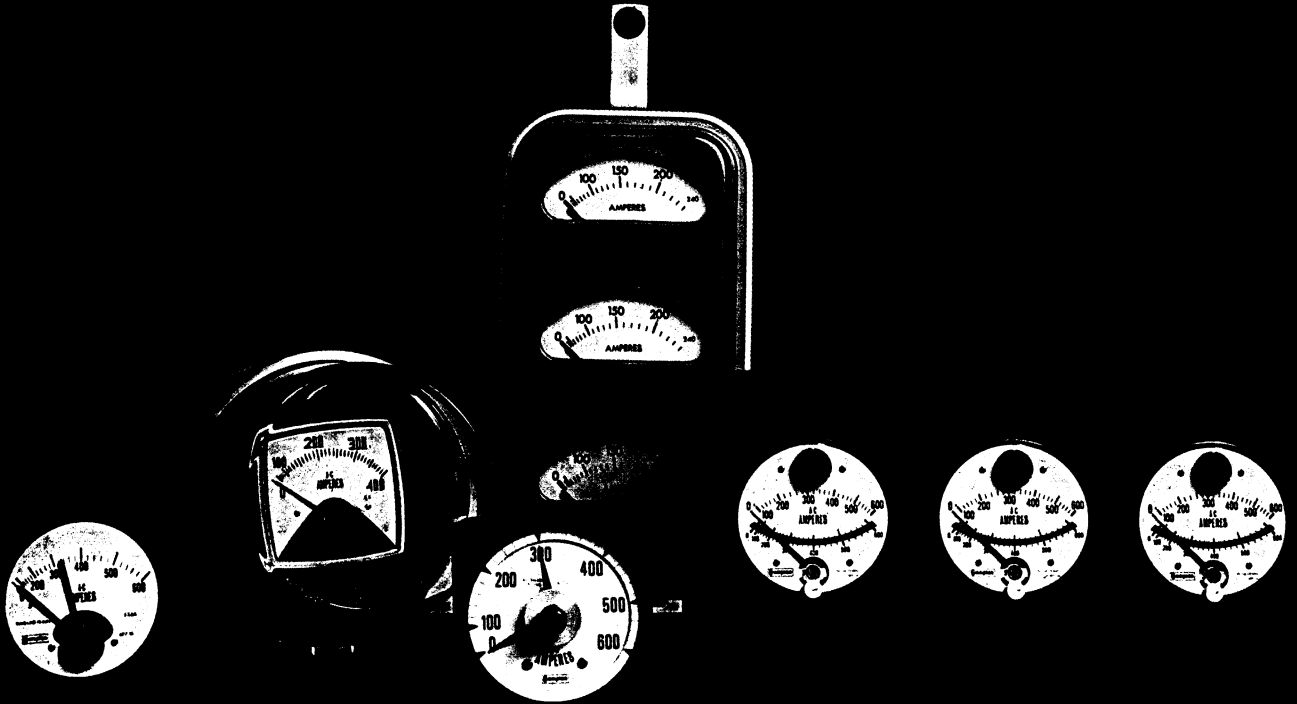
HAWKER

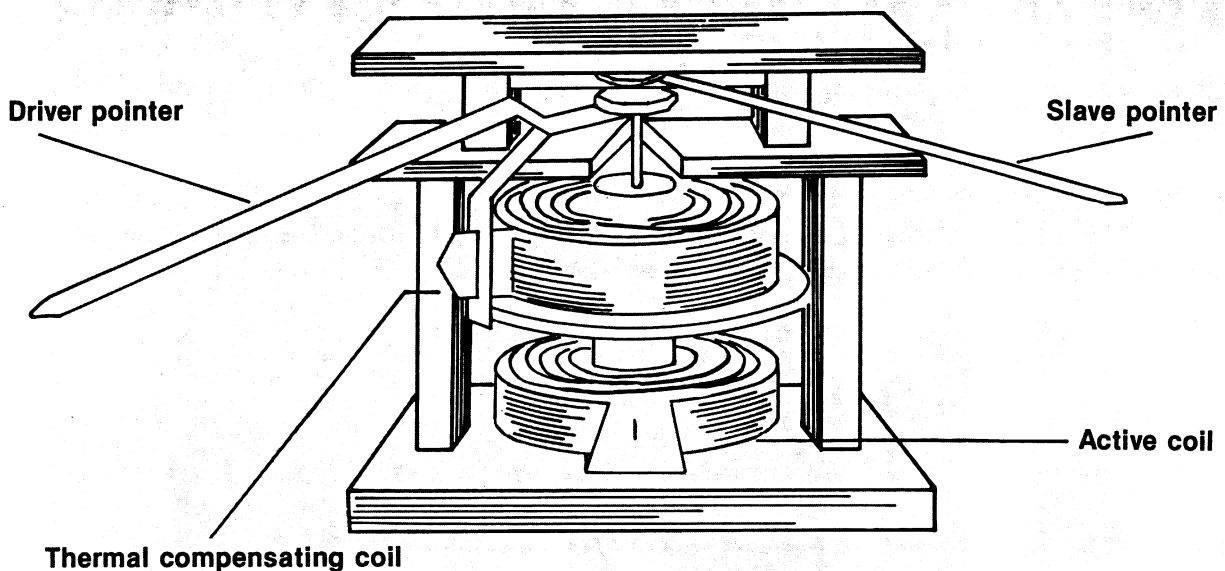
**Crompton**

**INSTRUMENTS**

SIDDELEY

# MAXIMUM DEMAND AMMETERS





## MAXIMUM DEMAND AMMETERS

The thermal characteristics of Crompton Maximum Demand Indicators correspond approximately to those of distribution transformers and cables. Monitoring the system with MDI's enables maximum safe loading and efficiency to be achieved. Maximum demand charges can be reduced by using MDI's to monitor selected areas of a plant and to determine where correction should be made.

The directly heated element reads RMS current with a time lag of 15 minutes. This element will withstand overload currents much better than the previously used indirectly heated element. This is due to the actual current winding using a much heavier

gauge (lower resistance) wire so that the normal operating temperature is lower. An internal shunt also provides an alternate path for current flow in the meter, so that an open circuit failure on the meter is most unlikely.

Internally fitted current limiting transformers can be specified, if required. This will significantly increase the instruments overloaded capacity (see page 5 for details).

Meters with thermal elements are overscaled by 20% (5A/6A) as standard to avoid pointer damage. Alternatively, a 0/5A without the 20% overload rating can be supplied, if requested.

# SWITCHBOARD

Crompton switchboard demand ammeters have been designed to match the appearance of the other Crompton Series 700 4½ in. switchboard meters and have fixing and frontal dimensions that meet the relevant requirements of

ANSI C.39.1 1981. The meter movements are mounted in hard drawn steel cases with molded windows. The easily read dials are normally scaled in primary current values, but secondary current scalings can be supplied upon request.



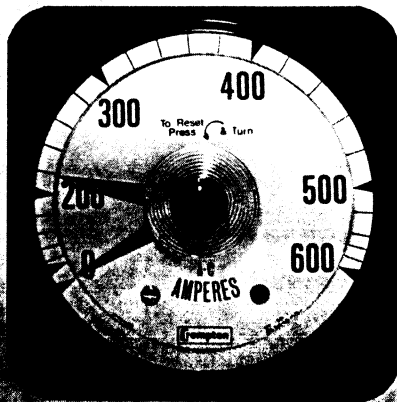
## THERMAL ELEMENT ONLY

Indicates the maximum average ampere demand of a system. These meters are useful in identifying overloaded circuits or out of balance loads between phases or in feeder circuits. Available with 15 min. time lag, a resettable demand pointer is driven upscale by the indicating pointer to show the maximum average value of current since the previous setting.



## THERMAL AND INSTANTANEOUS

Allows instantaneous values of current to be read independently of the thermal indicator. This meter combines a thermal movement with a tough and reliable oil damped, taut band instantaneous indicator.



## INSTANTANEOUS ONLY

Indicates the maximum instantaneous values of load current. This type of demand ammeter can be used in motor control circuits, where it is necessary to check that the load demands in the circuit are within the system capability. These long scale meters incorporate a high torque, taut band, iron vane movement whose indicating pointer drives a resettable red demand pointer to the maximum current value.

## TECHNICAL DATA

DESCRIPTION	CT RATING	ACCURACY MAX ERROR	TIME LAG	APPROX. BURDEN
Thermal - with Limiting CT	5A	3%	15 min.	3.5VA
Thermal - no Limiting CT	5A	3%	15 min.	2.5VA
Thermal/Instantaneous - with Limiting CT	5A	3%-Thermal 2%-Instantaneous	15 min.	4.0VA
Thermal/Instantaneous - no Limiting CT	5A	3%-Thermal 2%-Instantaneous	15 min.	3.0VA
Instantaneous only	5A	1% Indicator + 1% Demand pointer	—	5.0VA
Outdoor - 3 Phase Thermal - no Limiting CT	5A	3%	15 min.	2.5VA per element

### AMBIENT TEMPERATURE

Calibrated at 22°C

Accuracy maintained 12° to 32°C

Operating range -20° to +60°C

### ENCLOSURE CODE

Model 077

IP54 to IEC 529

Model 836 & 835

IP55

Maximum relative humidity 90%

### PERFORMANCE

Meet relevant sections of ANSI C.39.1  
ANSI C12.50  
BS 89  
IEC 51  
AS 1042

### RANGES AVAILABLE

Standard

5A

Optional dual range

2.5/5A  
3/6A  
5/10A  
6/12A

### SCALE LENGTH

Thermal 4 inches  
Thermal/Instantaneous 4 inches each  
Instantaneous only 6.8 inches

### OVERLOAD CAPACITIES:

Thermal elements:

3 × rated current for 10 seconds  
10 × rated current for 3 seconds

Instantaneous movements:

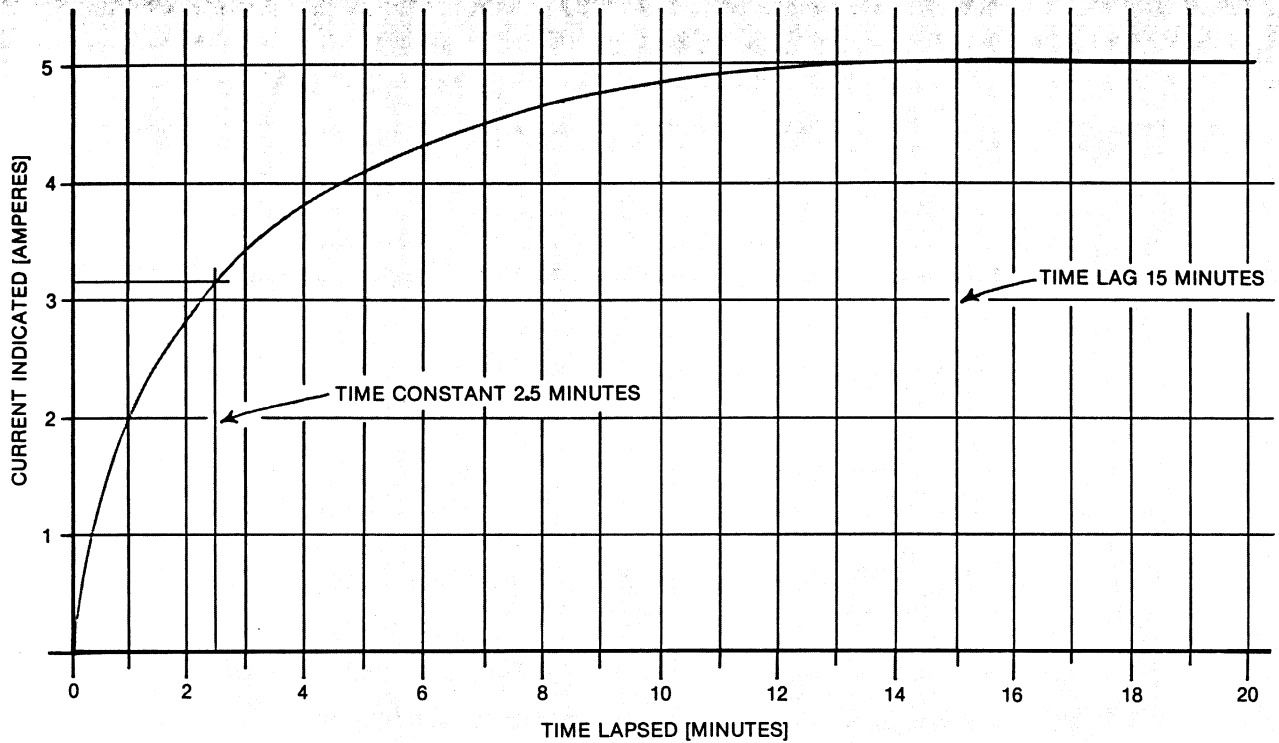
10 × rated current for 10 seconds

With current limiting transformer fitted:

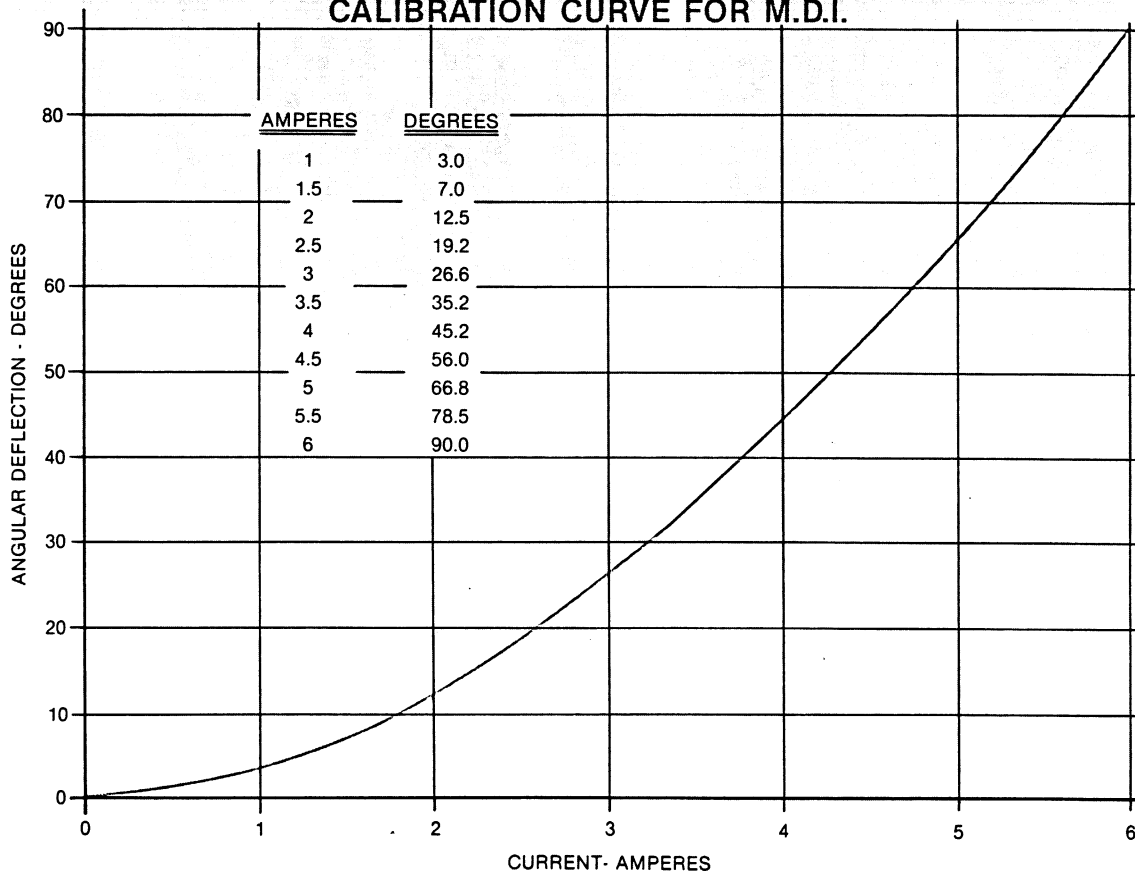
40 × rated current for 3 seconds  
90 × rated current for 1 second

All types will withstand 1.2 × rated current continuously

**GRAPH SHOWING CURRENT INDICATED, IN AMPERES, WITH 5 AMPERES APPLIED TO THE SYSTEM VS. TIME LAPSED, IN MINUTES.**



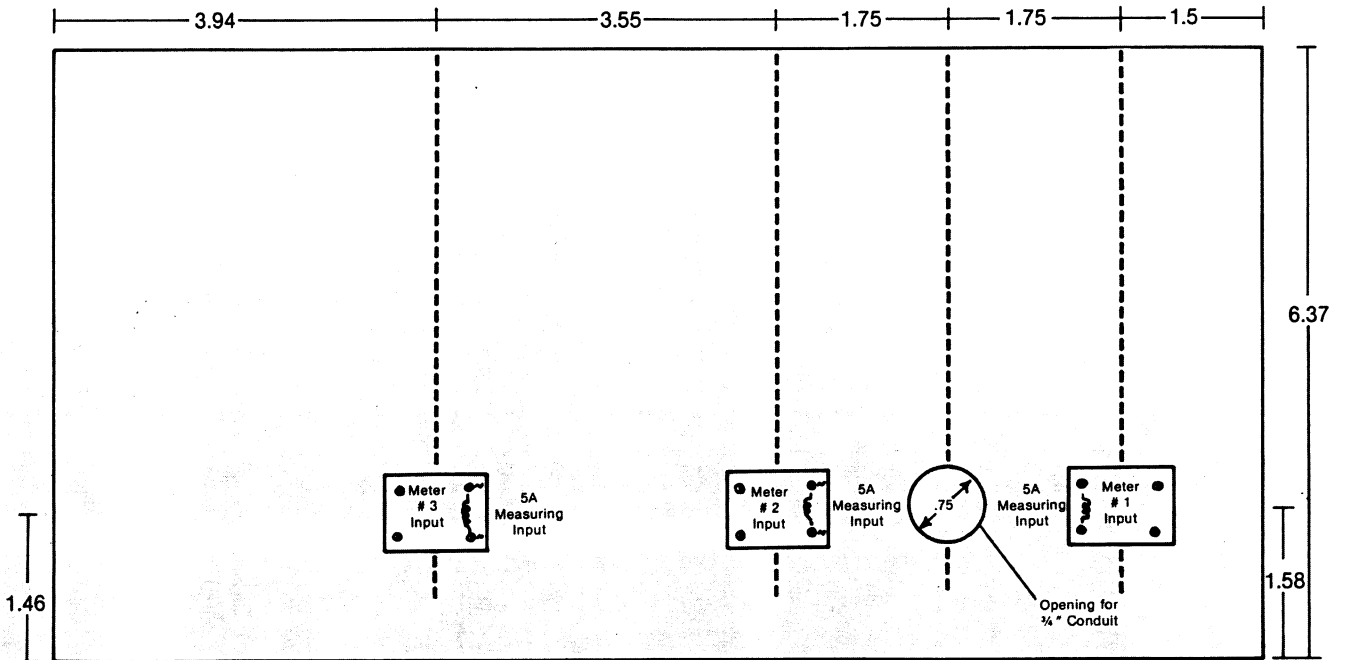
**CALIBRATION CURVE FOR M.D.I.**





# CONNECTION DIAGRAMS

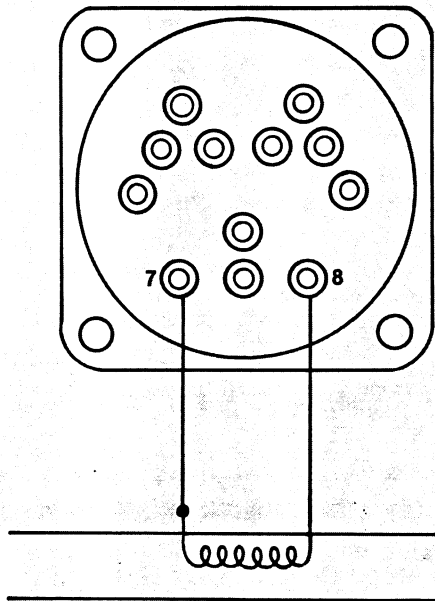
## Model 835-16



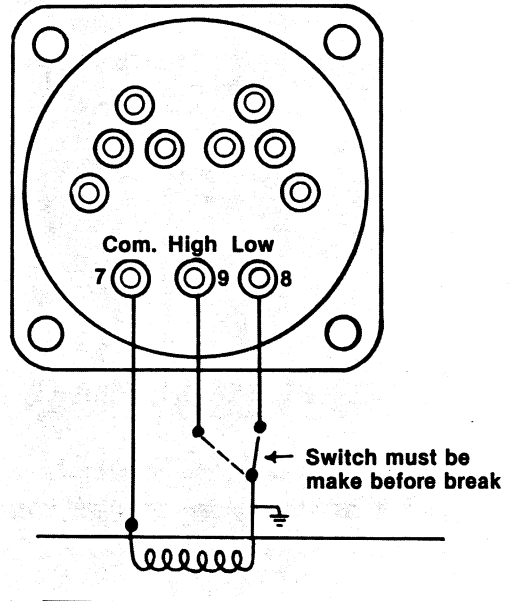
Measuring input connections - Access by removal of aluminum clamp band and front cover

## Model 077

### Single Range



### Dual Range



As development is continuous, we reserve the right to alter specifications without notice.

## CROMPTON INSTRUMENTS

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Also located in: Witham, England; Rotterdam, Holland; Düsseldorf, West Germany; Sydney and Melbourne, Australia; Singapore; Toronto and Montreal, Canada.