

DARE Power Monitors are designed to protect system equipment from power that is unsuitable for operation of the equipment. DARE Power Monitors can be installed on the power lines of DC, single or three phase AC power systems and operate off AC or DC power. Our power monitors continuously sense the voltage, frequency, and phase status of the system power and check the power for conditions and fluctuations that fall outside the acceptable limits of operation. In the event that the power monitor senses undesirable power conditions, the monitor can activate alarms, shed loads, or shutdown systems.



**DESIGN FEATURES**

- DC, 50 Hz, 60 Hz, or 400 Hz operation
- Phase loss sensing
- Time delays for pull-in and/or drop-out
- Hysteresis to prevent output chatter due to small frequency and voltage fluctuations
- Relay output configurations from SPST through 4PDT, up to 25 amperes
- Single or three phase models (Wye or Delta)
- Operation in accordance with MIL-E-24021 available
- Electromechanical relay or solid state output
- Hermetic sealing and encapsulating for immunity to shock, vibration, and environmental extremes
- Wide variety of finishes, enclosures, connectors, and mounting arrangements

**OPERATION**

The output of the power monitor will switch on if the phase rotation sequence of the power is A-B-C and if the voltage and frequency of the power are within the predetermined upper and lower limits of the operation band. The output of the power monitor will remain on as long as the system power characteristics meet the conditions of suitable operation. Phase rotation sensing does not apply to DC and single-phase models. If the power monitor detects that the voltage or frequency of any phase is not within the limits of the operation band or that the phase rotation sequence is not A-B-C, the output of the power monitor will switch off and remain off until the system power characteristics return to acceptable operating conditions. Power monitors typically use pull-in and drop-out time delays to prevent the monitor from reacting to transient power conditions. In most applications, the output of the Power Monitor is used to operate a power contactor that switches the actual load. The output of the Power Monitor can also be used to activate alarm indicators.

**GENERAL SPECIFICATIONS**

<b>ELECTRICAL Input (Operating)</b>		<b>ENVIRONMENTAL CHARACTERISTICS</b>	
Nominal Voltage:	115/220/440 VRMS or 28 Vdc	Temperature:	Per MIL-STD-810, Methods 501, 502
Nominal Frequency:	50/60/400 Hz ± 20% or DC	Operating:	-55°C to +125°C -or- -40°C to +85°C
Voltage Transients:	MIL-STD-704, Limits 1, 2, 3	Storage:	-65°C to +150°C
<b>Input (Sense)</b>		Vibration:	Per MIL-STD-810, Method 514 Procedure I 10-2000 Hz., 20 G's
Voltage Operation Band:	As Required*	Acceleration:	Per MIL-STD-810, Method 513 Procedure I and II, ±10 G's
Frequency Operation Band:	As Required*	Shock:	Per MIL-STD-810, Method 516 Procedure I, 50 G's - 11 ms
Set Point Accuracy:	± 1%	Humidity:	Per MIL-STD-810, Method 507, Procedure II
Hysteresis:	0.5%, typical	Altitude:	Per MIL-STD-810, Method 504 Category 6 Equipment, Sea Level to 70,000 Ft.
Phase to Phase Balance:	As Required*		
Phase Sequence:	A-B-C		
Time Delay:	As Required*		

\* These parameters can be custom specified to ensure maximum performance and reliability for any application  
 \* Contact factory for special requirements



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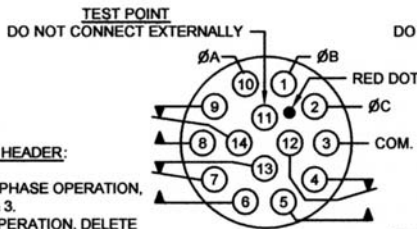
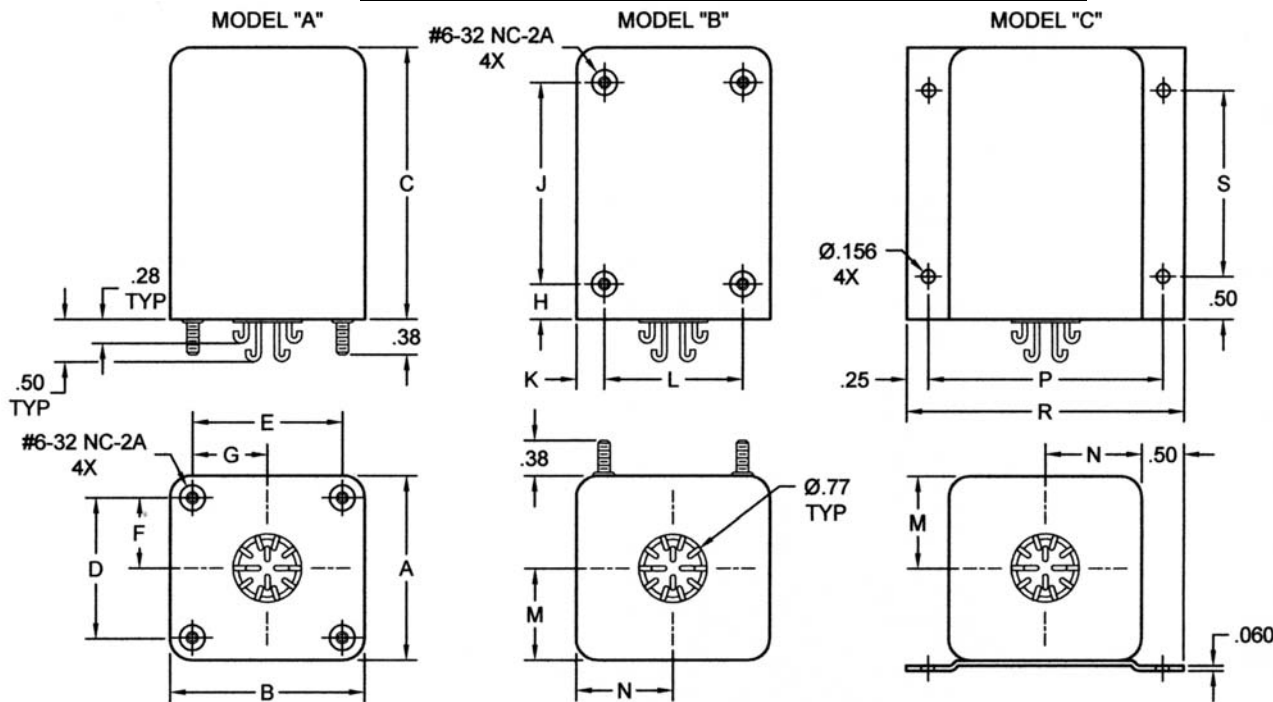
## AC / DC POWER MONITORS

CONSTRUCTION	
Enclosure (See drawings of basic styles):	Hermetically sealed and encapsulated
Connector (See wiring diagram of typical pin-out connections)	Glass to metal seal, solder Hook, or MS3113H type connector
Finish:	Various finishes available
OUTPUT CONTACTS	
Configuration:	DPDT and 3PDT
Contact Rating @ 28 VDC	
Resistive:	2 A    5A    10 A    25A
Inductive:	.75 A    3A    6 A    12A
Contact Life:	50,000 operations, minimum
Contact Resistance, Initial:	.075 ohms, maximum
Dielectric Strength:	1000 VRMS @ 60 Hz, All terminals to case
Insulation Resistance:	100 megohms @ 500 Vdc, All terminals to case

Case Dimensions		
Symbol	10 A, 60 Hz	All Others
A	2.56	2.14
B	2.94	2.27
C	3.17	3.19
D	1.875	1.625
E	2.25	1.750
F	.625	.812
G	1.125	.875
H	.39	.41
J	2.375	2.375
K	.39	.32
L	2.156	1.625
M	1.00	1.07
N	1.47	1.13
P	3.437	2.765
R	3.94	3.27
S	2.171	2.187

Tolerance .XX Dec ± .03, .XXX Dec ± .010

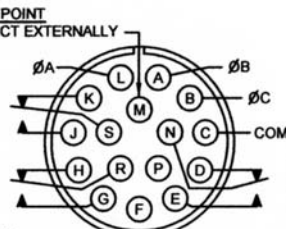
### STANDARD ENCLOSURE STYLES & WIRING DIAGRAMS



**SOLDER HOOK HEADER:**

1. FOR SINGLE PHASE OPERATION, USE PINS 2 & 3.
2. FOR DPDT OPERATION, DELETE PINS 4, 5 & 12.

**WIRING DIAGRAMS**



**CIRCULAR CONNECTOR:**

1. TYPE: MS3113H-20-16PN
2. FOR SINGLE PHASE OPERATION, USE PINS B & C.
3. FOR DPDT OPERATION, DELETE PINS D, E & N.

Contact Factory for Additional Styles & Options

CALL 1-800-FON-DARE