



## DRML1 Load Monitoring Module

- Sensing current range from 1.2 to 50 Amps at 600 VAC
- Up to 8 resistive loads can be monitored
- Under & Overcurrent detection
- No Mains Voltage/ Open Load and SSR Short Circuit detection
- Compatible with DIN Rail and Panel Mount SSRs (DR2260DxxV/W & PM2260DxxV)
- Easy installation and removal
- LED status indicator
- IP20 touch-safe housing
- Up to 128 outputs can be connected in parallel

The DRML1 Load Monitoring Module is designed to be plugged on top of any Nova22 Solid State Relay with Contactor configuration (PM22 and DR22 Series with options V or W) to monitor up to 8 heating elements with similar current value, with a total current ranging from 1.2 Amps up to 50 Amps.

The DRML1 module permanently measures the load current and compares it against a pre-set nominal value (TEACH value) which is stored during the installation of the module either by pressing the "Teach-In" pushbutton, placed on the front, or with the external "Teach-In" input.

The alarm output is activated when the module detects an undercurrent of 12.5% below the nominal value, which corresponds to the failure of a single load. The module can also detect other fault conditions, such as: overcurrent (current

exceeding 12.5% of the nominal current), blown fuses (open load), damaged (short circuited) or interrupted SSR, and it can also detect half-wave operation.

The maximum current value (20 Amps or 50 Amps) and an adjustable alarm response delay (0.1 sec, 1 sec or 5 secs) are selectable on the front via the parameter selector switch. The alarm delay avoids fault messages generated by voltage drops.

Malfunctions are indicated by a multicolor LED, which indicates when power is ON and also when the Teach-In function is activated (Blue), when the input signal is ON (Green) and when an alarm condition is activated (Red).

The DRML1 module is ideal for monitoring the correct operation of a wide range of equipment, such as injection molding, plastic extrusion and thermoforming machines.

### PRODUCT SELECTION

#### Module Type

Load Monitoring	DRML1
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### POWER SUPPLY SPECIFICATIONS<sup>(1)</sup>

Description	DRML1
Supply Voltage Range	8-30 VDC
Minimum Supply Current	10 mA
Maximum Supply Current	30 mA

### INPUT SPECIFICATIONS<sup>(1)</sup>

Description	DRML1
Input Voltage Range	4-32 VDC
Minimum Input Current	100 µA
Maximum Input Current	1.5 mA
Maximum Turn-On Time (Ton)	15 msec
Maximum Turn-Off Time (Toff)	15 msec

### EXTERNAL TEACH SPECIFICATIONS<sup>(1)</sup>

Description	DRML1
External Teach Voltage Range	4-32 VDC
Minimum Input Current	100 µA
Maximum Input Current	1.5 mA

**CURRENT SENSING SPECIFICATIONS (1)**

Description	DRML1
Maximum Teach Current	50 A <sub>RMS</sub>
Minimum Teach Current	1.2 A <sub>RMS</sub>
Teach Current	20 Amp Range
	50 Amp Range
Minimum Single Load Current	1.2-20 A <sub>RMS</sub>
	3.2-50 A <sub>RMS</sub>
Undercurrent Detection	0.15 A <sub>RMS</sub>
	0.40 A <sub>RMS</sub>
Overcurrent Detection	Teach Current * 0.875 A <sub>RMS</sub>
Load Voltage Frequency Range	Teach Current * 1.125 A <sub>RMS</sub>
Load Voltage Range	47-400 Hz
Number of Loads	48-600 VAC
	1 to 8

**ALARM SPECIFICATIONS (1)**

Description	DRML1
Output Voltage Range	6-29.8 VDC
Output Voltage @ Max. Current (24 VDC supply)	22 VDC
Maximum Output Current (2)	100 mA
Minimum Output Current	1mA
Maximum Off-State Leakage Current @ Rated Voltage	1 μA
Maximum Number of Outputs Connected in Parallel (3)	128
Alarm Delay Time	0.1 ± 0.035 sec
	1.0 ± 0.1 sec
	5.0 ± 0.1 sec
No Mains Voltage/ Open Load Detection Current Min/Max	20 Amp Range
	50 Amp Range
	50 mA <sub>RMS</sub> / 500 mA <sub>RMS</sub>
	200 mA <sub>RMS</sub> / 1.0 A <sub>RMS</sub>

**GENERAL SPECIFICATIONS (1)**

Description	Parameters
Dielectric Strength, Input to Output (50/60Hz)	4000 V <sub>RMS</sub>
Minimum Insulation Resistance (@ 500 VDC)	10 <sup>9</sup> Ohms
Maximum Capacitance, Input/Output	14 pF
Ambient Operating Temperature Range	-25 to 70 °C
Ambient Storage Temperature Range	-25 to 70 °C
Weight (typical)	1.5 oz (43 g)
Housing Material	UL94 V-0
Humidity	95% non-condensing
LED Input Status Indicator	See Status Chart

**THERMAL DERATE INFORMATION**

