



8 RELAYS, 8 OPTOISOLATED INPUTS

SPECIFICATIONS

OPTOISOLATED INPUTS

Inputs	8 nonpolarized optoisolators
Input voltage DC	3V min, 28V max,
AC	3V p-p min, 28V p-p max, 40Hz or greater
Input switch time	100ms max
Input impedance	1.8K Ω min
AC input filter	Selectable on a per-channel basis

RELAY OUTPUTS

Outputs	8
Relay type	SPDT (Form C)
Max power DC	30VDC / 1A
AC	125VAC / 0.1A resistive, 125VAC / 0.2A inductive
Max switching cap.	30W (DC), 50VA (AC)
Max operating voltage	220VDC, 250VAC
Contact resistance	50m Ω max
Relay lifetime	1,000,000 operations
Actuation time	5ms max, operate or release

GENERAL

I/O header	2 x 20 pin header; on .1" centers
Mating Cable	DSC #C-40-18
Isolation (all I/O)	500VDC or AC, input to board or board to output
Power supply	+5VDC \pm 10%
Current consumption	200mA typical, all relays off; Additional 40mA per activated relay
Operating temp.	-40 to +85 $^{\circ}$ C
Weight	3.0oz / 85g

Opal-MM features 8 optoisolated digital inputs and 8 relays. The inputs accept signals ranging from 3-28V AC or DC. An on-board input filter circuit allows the sensing of AC inputs with frequencies of 40Hz or higher. This filter is individually selectable for each input channel.

The 8 relays are non-latching type SPDT (form C). Each relay has 3 contacts: Common (C), Normally Open (NO), and Normally Closed (NC). For safety and reliability, all relays retain their power-off state (C connected to NC) during power-up and return to it during system reset. The relays can switch both AC and DC voltages. Relay lifetime is 1,000,000 operations minimum at rated DC load. Quick actuation time (5ms operate or release), break-before-make operation, and bifurcated contacts ensure reliable operation even with low-level signals.

Signal Isolation

Opal-MM provides 500V DC or AC isolation between all I/O connections and the rest of the board. This specification does not apply between I/O channels, although all channels are isolated from each other as well. In many applications, the I/O points share a common power or ground line and require only isolation between the I/O lines as a group and the control circuitry.



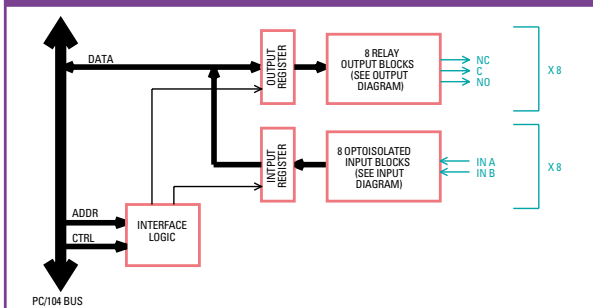
- ◆ 8 SPDT (form C) relays
- ◆ Long lifetime - 1,000,000 operations
- ◆ DC switching capacity 30VDC / 1A
- ◆ AC switching capacity 125VAC / 0.1A
- ◆ Switching resistance 50 m Ω max
- ◆ 8 non-polarized optoisolated inputs
- ◆ Input voltage: 3-28VDC or 3-28VAC p-p 40Hz or greater
- ◆ 40-pin header for all I/O
- ◆ -40 to +85 $^{\circ}$ C operation
- ◆ FREE Universal Driver software included

ORDERING GUIDE

OPMM-XT 8 relays, 8 optocouplers

For cables and accessories, see pages 46-47.

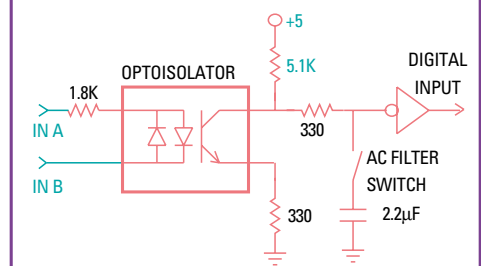
OPAL-MM BLOCK DIAGRAM



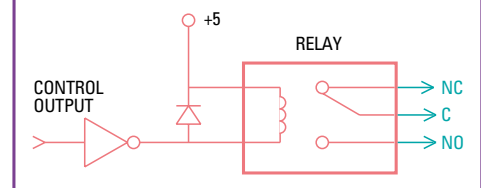
I/O HEADERS

OUT 7 C	1	2	OUT 6 C
OUT 7 NC	3	4	OUT 6 NC
OUT 7 NO	5	6	OUT 6 NO
OUT 5 C	7	8	OUT 4 C
OUT 5 NC	9	10	OUT 4 NC
OUT 5 NO	11	12	OUT 4 NO
OUT 3 C	13	14	OUT 2 C
OUT 3 NC	15	16	OUT 2 NC
OUT 3 NO	17	18	OUT 2 NO
OUT 1 C	19	20	OUT 0 C
OUT 1 NC	21	22	OUT 0 NC
OUT 1 NO	23	24	OUT 0 NO
IN 7 A	25	26	IN 7 B
IN 6 A	27	28	IN 6 B
IN 5 A	29	30	IN 5 B
IN 4 A	31	32	IN 4 B
IN 3 A	33	34	IN 3 B
IN 2 A	35	36	IN 2 B
IN 1 A	37	38	IN 1 B
IN 0 A	39	40	IN 0 B

OPAL-MM INPUT DIAGRAM



OPAL-MM OUTPUT DIAGRAM



(shown with control output = 0)