

# 089(M)/089H(M)

DIN-RAIL SINGLE-PHASE DUAL-STAGE FILTER WITH HIGH VOLTAGE OR MOV OPTIONS (GENERAL PURPOSE & MEDICAL)

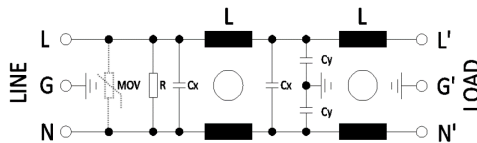
## FEATURES

- » Rated currents include **1A, 3A, 6A, 10A, 12A, and 16A**
- » Dual Stage filter with MOV or High Voltage (H) option
- » MOV protects against voltage surge
- » General Purpose & Low Leakage (M)edical options
- » DIN-Rail mounting
- » Easy to use and install
- » Agency Approval (UL and IEC 60939, CSA C22.2 8-13)
- » Y-cap value can be adjusted

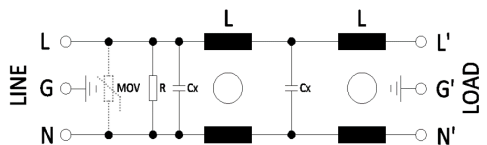


## ELECTRICAL SCHEMATIC

089/089H



089M/089HM



## HOW TO ORDER

089HM.0AA00.00



**NOTE:** USE ANY COMBINATOR OF **M** AND **AA**

E.G. **089.00100.00** (1A GENERAL PURPOSE VERSION) | **089M.01000.00** (10A LOW LEAKAGE MEDICAL VERSION)

## SPECIFICATIONS

OPERATING FREQUENCY	50/60Hz
MAX. OPERATING VOLTAGE	089(M): 250VAC +10% 089H(M): 300VAC +10%
AMBIENT TEMPERATURE	-25 TO 40°C
CLIMATIC CATEGORY	25/100/21
TERMINALS (-T)	TERMINAL BLOCK WITH SPRING-CAGE CONNECTORS
TYP. WEIGHT, LBS (KG)	0.22 (0.45)

## TYPICAL LEAKAGE CURRENT 089

@ 250 VAC 50 Hz	0.74 mA Max.
@ 115 VAC 60 Hz	0.43 mA Max.

## TYPICAL LEAKAGE CURRENT 089M

@ 250 VAC 50 Hz	0 uA Max.
@ 115 VAC 60 Hz	0 uA Max.

## HIPOT RATINGS

LINE TO LINE	2110 VDC
LINE TO GROUND	2500 VDC

## TYPICAL APPLICATIONS

- ✓ Industrial Processing Equipment
- ✓ PLC Cabinet
- ✓ Control Panel
- ✓ Factory Automation
- ✓ Medical Instrumentation Panel

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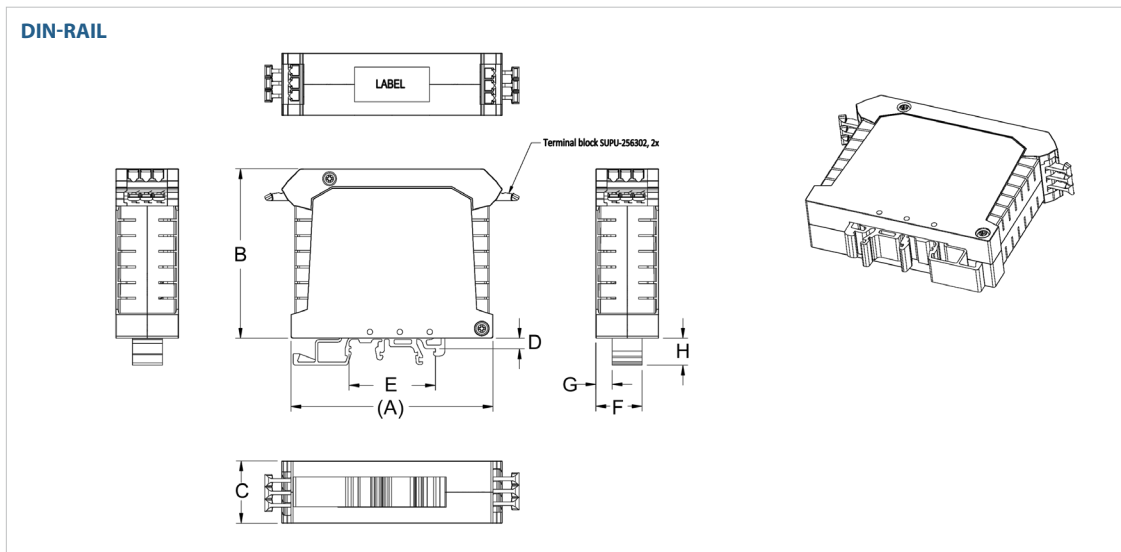
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MODEL NO.	RATED CURRENT A @ 40° C	MOV SURGE PROTECTION	TERMINAL OPTIONS	APPLICATION		OPERATING VOLTAGE		MAX. DIMENSIONS" (MM)		
			TERMINAL BLOCKS INPUT/OUTPUT	GENERAL	MEDICAL	250VAC	300VAC	WIDTH	DEPTH	HEIGHT
089.00100.00	1	✓	✓	✓		✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089.00300.00	3	✓	✓	✓		✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089.00600.00	6	✓	✓	✓		✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089.01000.00	10	✓	✓	✓		✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089.01200.00	12	✓	✓	✓		✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089.01600.00	16	✓	✓	✓		✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089M.00100.00	1	✓	✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089M.00300.00	3	✓	✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089M.00600.00	6	✓	✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089M.01000.00	10	✓	✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089M.01200.00	12	✓	✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089M.01600.00	16	✓	✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089H.00100.00	1		✓	✓			✓	1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089H.00300.00	3		✓	✓			✓	1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089H.00600.00	6		✓	✓			✓	1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089H.01000.00	10		✓	✓			✓	1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089H.01200.00	12		✓	✓			✓	1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089H.01600.00	16		✓	✓			✓	1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089HM.00100.00	1		✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
089HM.00300.00	3		✓		✓	✓		1.02"(25.5)	3.16"(80.14)	4.05"(102.88)
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## 089(M) MECHANICAL OUTLINES (MM)



SERIES	(A)	B	C	D	E	F	G	H
DIN-RAIL	3.19" (81)	2.69" (68.2)	0.98" (25)	0.17" (4.3)	1.36" (34.6)	0.73" (18.5)	0.26" (6.5)	0.43" (10.9)

TYPICAL TOLERANCE: +/-0.04" (1.0MM)

## TYPICAL INSERTION LOSS, dB (50/50 Ohm)

### 089/089H INSERTION LOSS

Amps	Freq (MHz)	Insertion Loss (dB)					
		0.15	0.5	1	5	10	30
1	CM (dB)	85	87	80	72	56	22
	DM (dB)	65	63	63	62	60	55
3	CM (dB)	55	83	86	70	69	28
	DM (dB)	51	67	62	58	56	61
6	CM (dB)	40	65	80	67	61	34
	DM (dB)	40	81	68	59	56	64
10	CM (dB)	20	47	58	65	52	31
	DM (dB)	33	68	70	56	53	56

# 089(M)

## DIN-RAIL SINGLE-PHASE DUAL-STAGE FILTER WITH MOV (GENERAL PURPOSE & MEDICAL)

Amps	Freq (MHz)	0.15	0.5	1	5	10	30
12	CM (dB)	12	35	46	63	46	27
	DM (dB)	23	60	71	61	58	48
16	CM (dB)	7	30	41	56	40	23
	DM (dB)	31	55	68	58	54	46

### 089M/089HM INSERTION LOSS

Amps	Freq (MHz)	0.15	0.5	1	5	10	30
1	CM (dB)	52	53	45	30	24	13
	DM (dB)	67	65	64	64	62	52
3	CM (dB)	35	42	44	37	32	20
	DM (dB)	50	84	75	73	72	68
6	CM (dB)	23	34	36	33	21	24
	DM (dB)	40	79	76	67	66	64
10	CM (dB)	14	25	27	24	22	17
	DM (dB)	33	68	70	57	54	53
12	CM (dB)	9	19	21	19	18	13
	DM (dB)	23	61	84	64	61	58
16	CM (dB)	6	16	18	16	15	11
	DM (dB)	32	56	85	65	61	59