Resin Sealed Bolt-in EMI Filters

High Current / High Voltage

High current filters are ideal for high current 5-volt logic buss but can also be used for ±48 VDC telephone rack buss, high current switch mode power supplies, and DC charging systems. High voltage filters find use in high voltage power supplies and applications requiring U.L. Hi-Pot.

Features

- Current ratings up to 100 Amps
- Continuous voltage ratings up to
- 1250 VDC/240 VAC (400Hz)
- U.L. 1459 recognized and CSA C22.2 approved versions available
- Rugged bolt-in style for easy installation

Installation Notes

For figure 1 & 2 – see below (Figures 3-6, see page 3)

1. Mounting installation torque
   - **e** mounting in a full-threaded through-hole
   - **i u r ue** 96 in-lbs.
   - **e** mounting with hardware
   - **i u r ue** 84 in-lbs.
2. Mounting installation torque
   - **i u r ue** 20 in-lbs
     Note: use two-wrench method to install terminal hardware

Product Specifications

See pages 2 and 3 for physical dimensions.
See page 4 for filter installation guidelines.

Part Number	Figure	Rated Voltage 125°C DC	Rated Voltage 125°C AC***	I Amp	CKT	Min Cap	Minimum Insertion Loss (dB) 1 MHz	3 MHz	10 MHz	30 MHz	100 MHz	300 MHz	1 GHz	10 GHz
54-848-005*	1	60	—	50	C	0.22 µF	20	30	40	50	50	50	50	50
54-853-001*	2	60	—	50	C	0.22 µF	20	30	40	50	50	50	50	50
54-853-004	2	200	140	100	C	0.22 µF	20	30	40	50	50	50	50	50
54-848-008	1	200	140	100	C	0.22 µF	20	30	40	50	50	50	50	50
54-844-001**	3	600	240	25	C	4700 pF ± 20%	—	—	12	20	30	33	50	50
54-844-002**	3	600	240	25	C	0.01 µF ± 20%	3	7	20	25	35	40	57	57
54-763-008	4	750	—	25	C	1000 pF	—	—	—	10	20	28	28	28
54-763-009	4	750	—	25	C	4000 pF	—	—	10	22	32	35	35	40
54-789-003	5	1250	—	25	C	4000 pF	—	—	6	20	30	35	35	35
280-060	6	2500	—	25	Pi	1500 pF	—	—	5	15	50	50	50	50

* Denotes parts that are UL recognized to UL 60950 and certified to CSA C22.2

** Denotes parts that meet 1500 VAC Dielectric Withstanding Voltage per UL 1283 and CSA C22.2

sales@am.spectrumcontrol.com
Approved for Release: September 2025/Brown

Figures 1 to 3

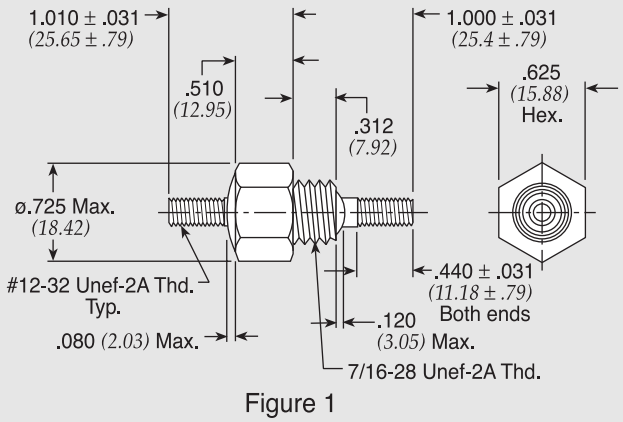


Figure 1

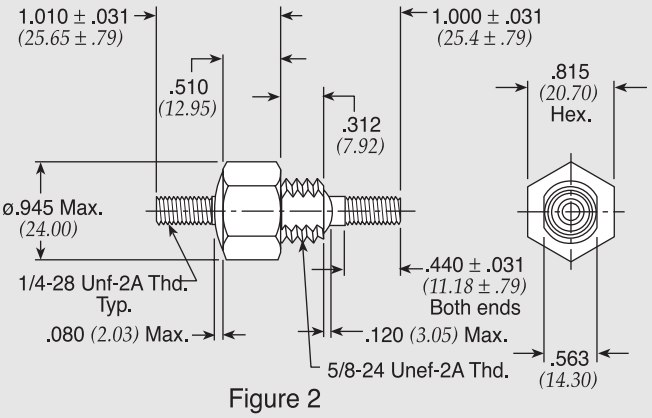


Figure 2

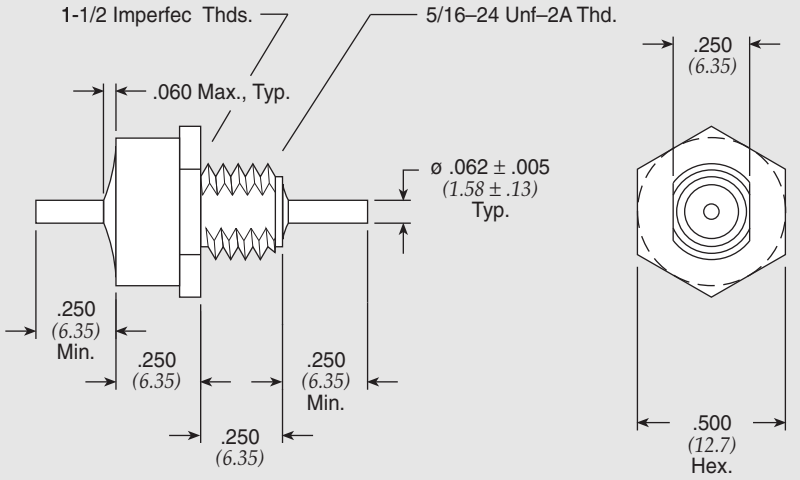


Figure 3

Dimensions in inches *(mm)*

sales@am.spectrumcontrol.com

Approved for Release: September 2025/Brown

Figures 4 to 6

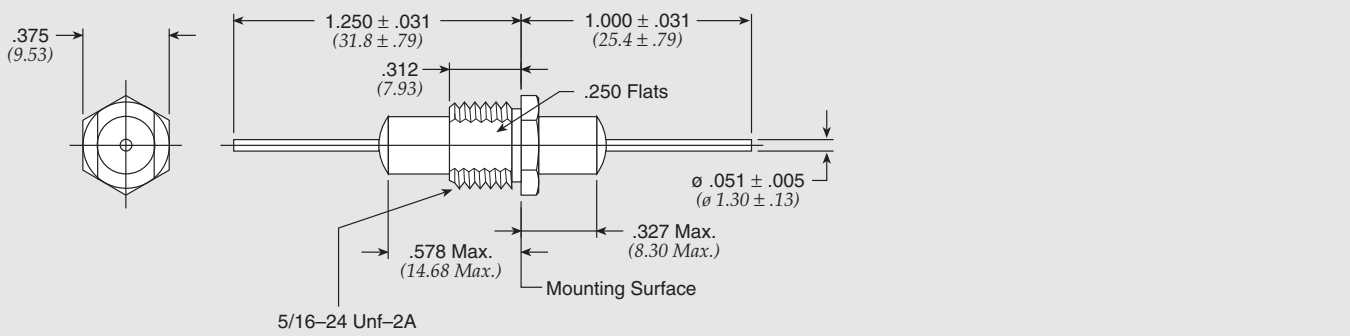


Figure 4

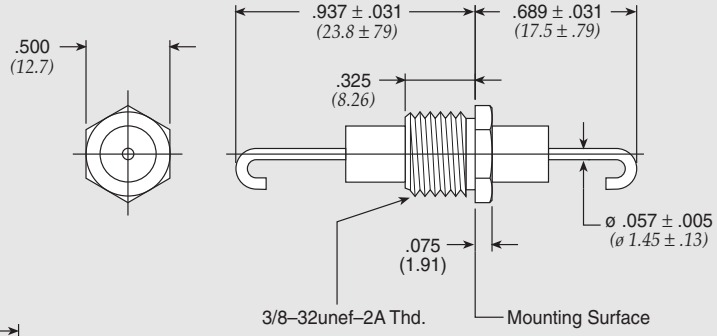


Figure 5

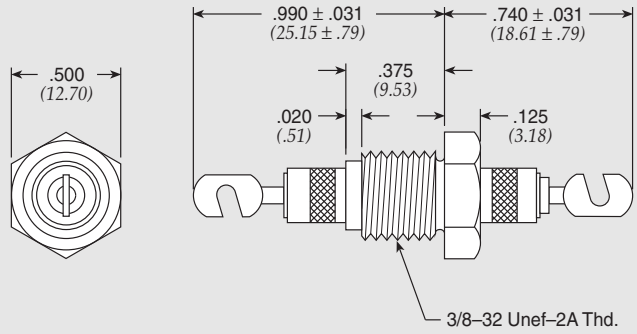


Figure 6

Dimensions in inches *(mm)*

sales@am.spectrumcontrol.com

Approved for Release: September 2025/Brown

SPECTRUM CONTROL

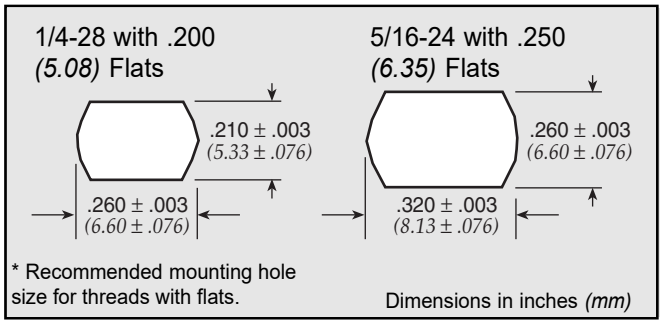
Filter Installation Guidelines

Threaded Style Filters

Filter Thread Size	Maximum Mounting Torque		Mounting Hole Dia.		Drill Size	
	in-lbs	Nm	(in)	(mm)	English	Metric (mm)
4-40	1.5	0.170	0.120	3.05	# 31	3.10
6-40	3	0.339	0.147	3.73	# 26	3.75
6-32	3	0.339	0.147	3.73	# 26	3.75
8-32	4	0.452	0.173	4.39	# 17	4.40
10-32	4	0.452	0.190	4.83	# 8	5.10
12-28	6	0.678	0.228	5.79	# 1	5.80
12-32	6	0.678	0.228	5.79	# 1	5.80
1/4-28 *	7	0.791	0.261	6.63	# G	6.70
5/16-24 *	7	0.791	0.323	8.20	# P	8.25
5/16-32	7	0.791	0.323	8.20	# P	8.25
3/8-32	9	1.017	0.386	9.80	# W	9.90

Note: For 5/8-24 and 7/16-28 refer to the specific instruction noted on part drawings or see page 11 of the Resin Sealed Bolt-in Filters catalog.

- Exceeding recommended mounting torque may result in damage to the capacitor within the filter due to possible twisting or elongation of the case.
- For products without hex surfaces do not hold the filter with pliers or other gripping tools. Pressure exerted on the filter case may crack the ceramic capacitor element.
- Proper use of filters requires that the filter case be adequately grounded to form an effective path for the interference.



Solder-in Style Filters

- A controlled temperature profile not exceeding 6°F (3°C) per second is recommended when soldering filters.
- When soldering to terminals of a filter, a heat sink should always be used adjacent to the body of the filter.
- 60-40 solder is recommended for installation of the filter into the chassis as well as soldering to the terminals. If a filter style without an eyelet is being soldered into a chassis, iron processes should be avoided and the recommended solder alloy is 60-38-2.
- Installation hole size for a solder-in filter should be 0.003-0.005" over the maximum tolerance of the minor diam-eter of the mounting portion of the eyelet with a ±0.002" tolerance.
- Machine/oven soldering 385-415°F (195-210°C) using a dwell and cycle time fast enough to reflow the solder and ramped to maintain less than 6°F/sec rate of change.
- For iron soldering to filter body, preheat components at 250-300°F (120-150°C), solder iron is recommended to be set at 500-550°F (260-290°C). The dwell on the solder joint should be less than 5 seconds. The time is depen-dent on the heat sinking provided by the chassis so a longer preheat may be required.

Soldering to Filter Terminals

- Use a temperature controlled soldering iron with tip temperature of 525 ± 10°F (275 ± 5°C).
- Use an SN 63 RMA flux core solder.
- Make mechanical wire connection.
- Use heat sink next to filter body where possible.
- Clean soldering iron tip.
- Clip end of solder (remove 0.5") to expose flux for soldering.
- Apply soldering iron to wire/flag junction at wetted solder tip region of iron (Wetted Bridge Method). Immediately apply solder. Dwell time for soldering iron tip on product should be 3-5 seconds maximum.

sales@am.spectrumcontrol.com
Approved for Release: September 2025/Brown