

Corcom Facility EMI Filter Products



A World Leader in RFI Technology

TE Connectivity (TE) has dedicated more than 50 years to developing RFI filter technology for electronic devices. We're proud that our focus on the design and production of the highest quality products has made TE a world leader in RFI technology.

Our leadership in the filter and power entry module markets was enhanced in 1988 with the acquisition of the Heavy Power Line Division of Cornell Dubilier. The high quality designs and manufacturing of these heavy power line filter products is maintained and enhanced by TE.

We have continued that dedication to excellence begun by Cornell Dubilier and inherent to TE's way of doing business. Only the highest quality designs, capacitors, inductors, and workmanship are used to produce these filters. We recognize the need for great care demanded by high-reliability military filters and automatically apply like quality to the heavy power line products. We treat all product as if it is high-reliability.

TE's office in Mundelein, Illinois provides application engineering service for these heavy power line and military products. Our engineers can help to design a special filter in the rare case a standard product from this catalog cannot adequately solve the problem. Additional product performance data and test results are available from the engineers at this facility.

TE's worldwide sales offices can help you locate information on these products or any of the hundreds of high quality power line filters and power entry modules made by TE.

The export of certain TE Connectivity products is restricted by the Arms Export Control Act (Title 22, U.S.C. Sec 2751, et seq.) or the Export Administration Act of 1979, as amended (Title 50, U.S.C., App. 2401 et seq.). Orders may be subject to export approval by the U.S. Government. Buyer must comply with all applicable export laws of all applicable jurisdictions.

Table of Contents

1. Filter Selection Guide

Corcom Facility EMI Filters Selection Guide	2
Signal / Data / Control Filter Selection Guide	4
Technical Notes	6

2. Corcom Facility EMI Filters**NEMA Cabinet Style**

CDEUW Series (Capacitive Input)	8
CDEUX Series - Extended Range Buffer Networks (Capacitive Input) ..	10
CDEUL Series - Extended Range Buffer Networks (Inductive Input) ..	12
TECUL Series - Extended Range Buffer Networks (Inductive Input) ..	14

Stand-Alone Filters With Threaded Conduit Fitting

CDSUX-C Series - Extended Range Buffer Networks	16
CDSUW-C Series	18
CDSUA Series	20

Cabinet and Filter Options

Power Factor Correction Coils (Three Phase)	23
NEMA Cabinet Legs	24

3. Corcom Signal/Data/Control Line Filters**NEMA Cabinet Style**

SLA Series – Cabinets and Signal/Data/Control Filters	26
---	----

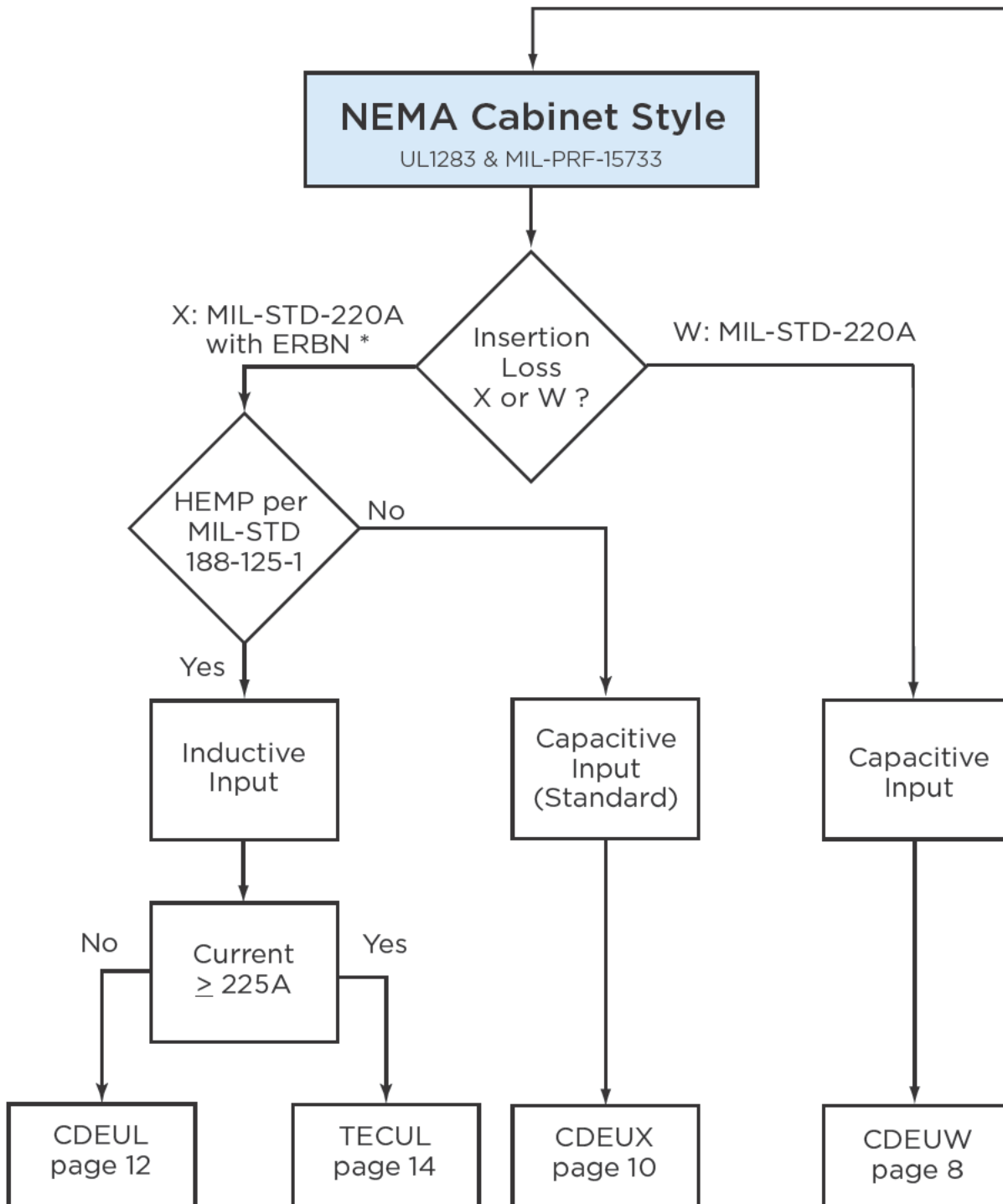
Stand-Alone Filters With Threaded Conduit Fitting

CDFS Series	30
-------------------	----

4. MRI Stand Alone Medical Filters**Stand-Alone Threaded Conduit Fitting**

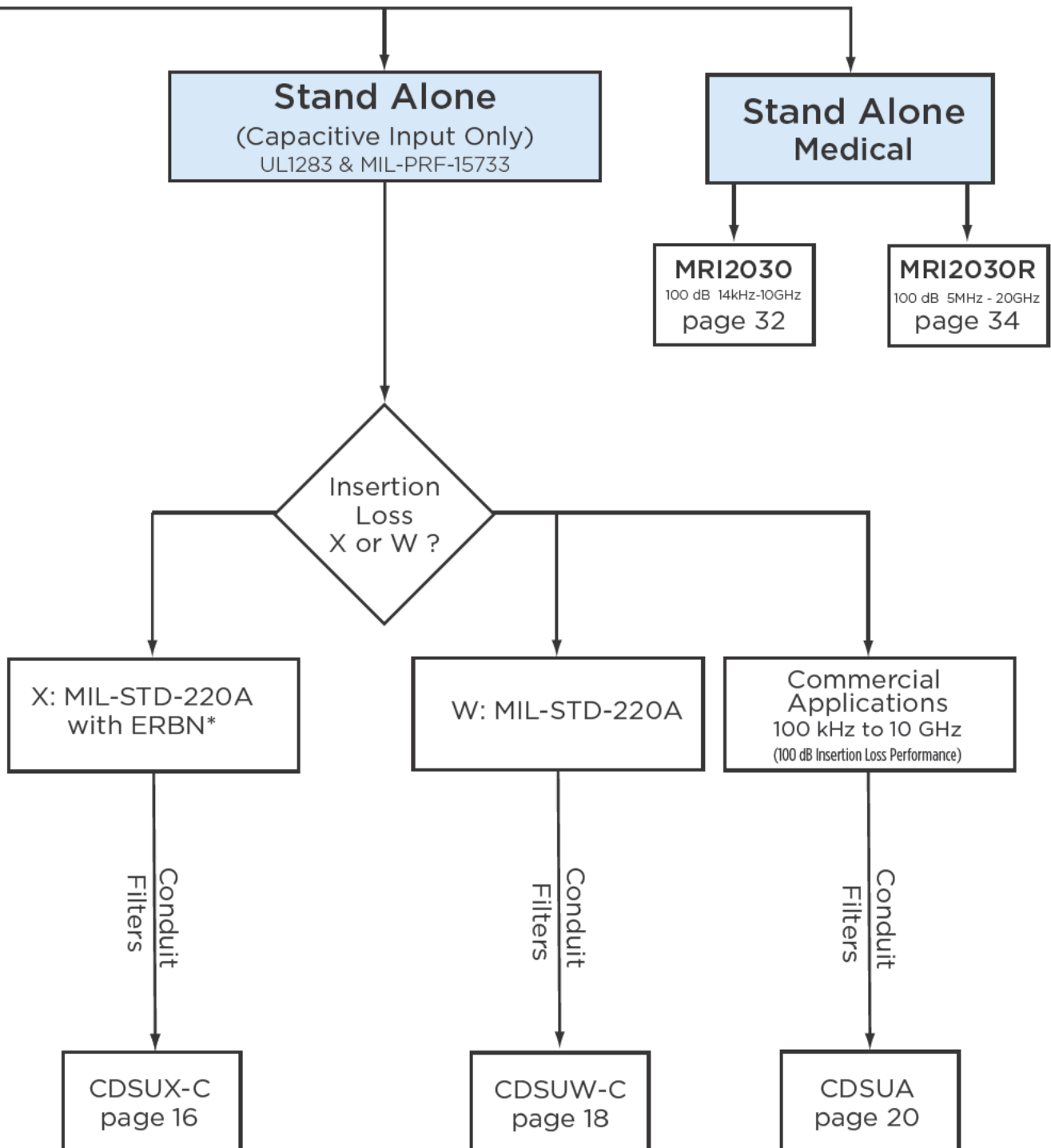
MRI 2030 High Performance (100dB 100 kHz to 10 GHz)	32
MRI 2030R (100 dB 5 MHz to 20 GHz)	34

Corcom Facility EMI Filters Selection Guide

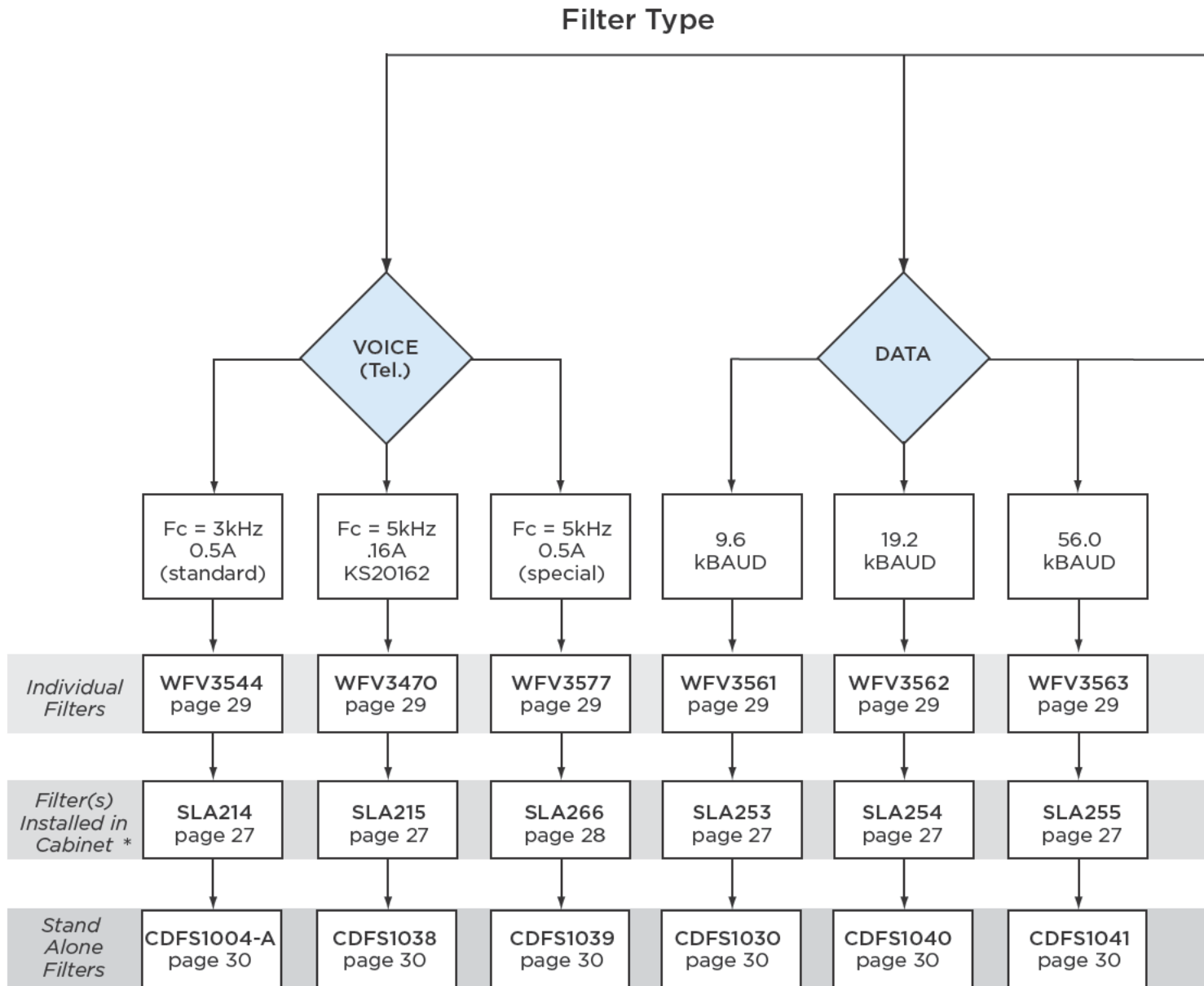


* ERBN = Extended Range Buffer Network

Corcom Facility EMI Filters Selection Guide *(continued)*

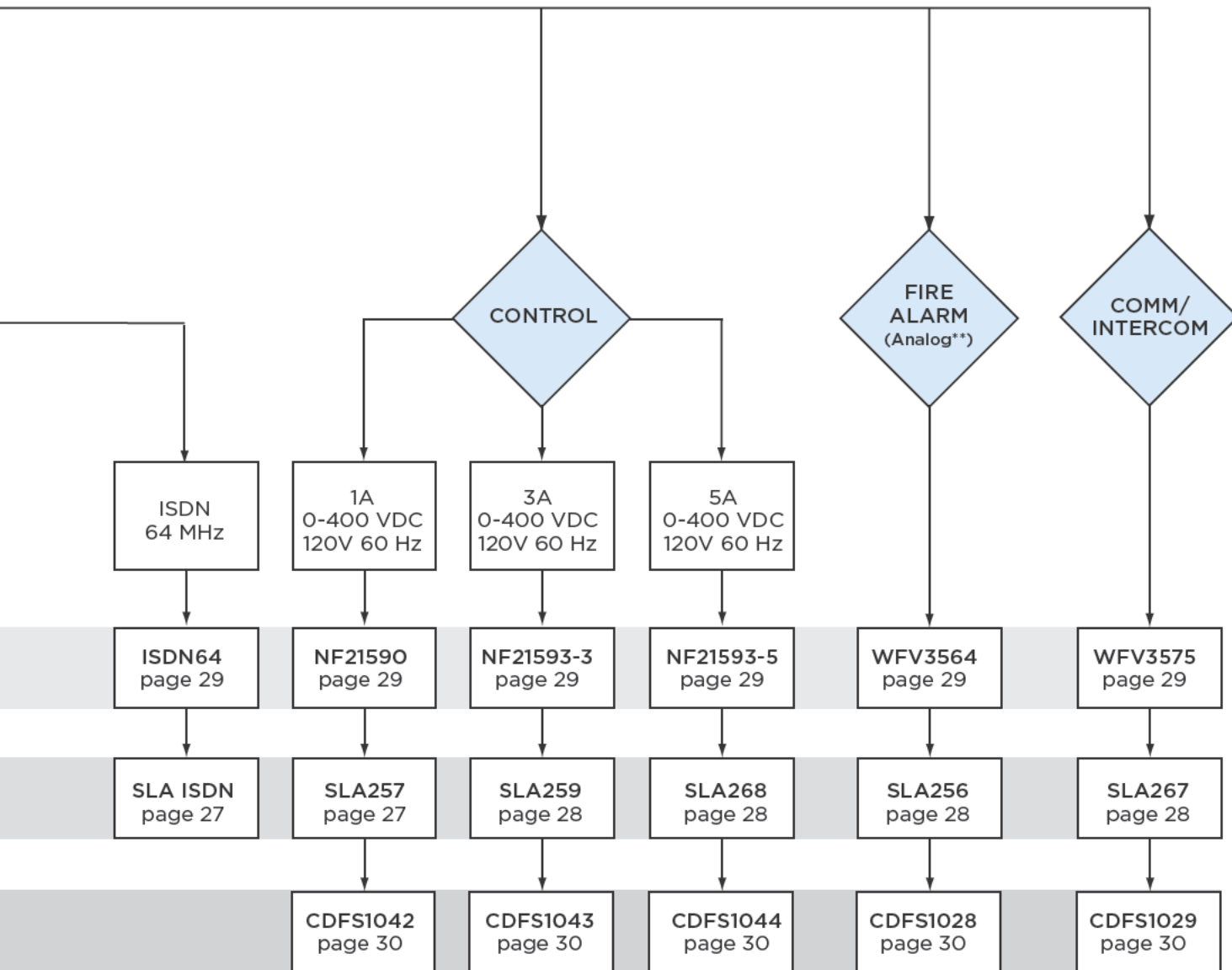


Signal / Data / Control Filter Selection Guide



* Part number shown defines base part number only.
Complete part number requires cabinet capacity and number of filters installed.
See catalog page for ordering information.

Signal / Data / Control Filter Selection Guide *(continued)*



*** Not intended for digital / addressable systems.
Contact TE/Corcom for recommendation on a filter solution for these systems.*

Technical Notes

Facility Filter Questions and Answers:

The following are examples of the most commonly asked questions about TE Connectivity's Corcom power and signal line filter products.

Although every RF filter installation must be considered according to the user's individual requirements, these general principles apply to a wide range of applications and should prove helpful as an introduction to our product.

Why do I need RF filters for my facility?

Corcom facility filters have both protective and security functions. Shielded installations and applications involving sensitive measurements or equipment require an environment free from conducted or radiated EMI/RFI emissions.

Facility filters for power, data, telephone and all other signals are used for every electrical penetration in EMI/RFI enclosures to reduce conducted emissions. When the shielded area is sealed, all emissions are reduced or contained.

What is the difference between "W" and "X" styles?

All Corcom "W" style facility power filters are designed to provide 100 dB from 14 kHz-10.0 GHz when tested per MIL-STD-220A. However, this standard only requires testing under load conditions from 100 kHz - 20 MHz (CDEUW, CDSUW, CDSUA Series).

The majority of current government programs specify MIL-STD-220A, with the additional specification of under load testing from 14 kHz - 100 kHz. This is due to requirements for sensitive electronic or national security related activities.

A filter for this higher performance application would generally be designated an "X" or "Extended Range Buffer Network" style (CDEUX, CDEUL, TECUL, CDSUX Series).

What is the difference between "Enclosure Style" and "Stand-Alone" Filters?

Enclosure style filters consist of removable inserts mounted in a radio frequency secure cabinet. This is the type specified by the U.S. government for a number of important advantages in heavy power and multi-line communications applications.

An enclosure makes for a simplified, single penetration field installation, providing greater RF integrity and simpler filter maintenance.

Stand-alone filters offer the identical levels of filter performance as the enclosure models, but are available with self-enclosed terminals for individual and dual line applications. Penetrations for installation are provided for this type of unit directly from the factory.

What is the difference between MIL-PRF-15733 and UL-1283 filters?

All Corcom power filter products are designed to meet MIL-PRF-15733, which is the general U.S. Military standard for RF filters. UL1283 is an Underwriter's Laboratories requirement for features which are primarily related to safety considerations.

The individual heavy power filters or inserts for both UL and MIL-STD applications are all equipped with oil impregnated, bypass and feed-through capacitors. UL1283 listed models use capacitors which are designed to withstand mandatory high potential factory tests of up to 2,200 volts.

What types of factory tests are performed on the filters?

TE has one of the most comprehensive automated quality assurance programs in the filter industry.

Certified factory test data is available upon request¹. Filters are factory tested for:

- Insertion Loss
- Voltage Drop²
- Harmonic Distortion²
- Terminal Strength
- Temperature Rating²
- Dielectric Withstanding Voltage
- D.C. Insulation Resistance
- Current and Overload Ratings²

¹ Additional charges may apply

² Performed upon customer request only

Technical Notes *(continued)***Which are the "input" and "output" sides of the filters?**

Unless otherwise specified, Corcom signal and power filter products are electrically symmetrical. Either side of the unit may be used as "input" or "output" terminal (Exceptions include inductive input CDEUL and TECUL Series).

An exception to this general rule is found in enclosure style filter assemblies where only one of the two compartments is secure or "RF-tight". If the filter unit is mounted outside of the shielded area, the secure compartment would be the "output" side. Because the reverse is also true, the non-secure side would be used as the "output" if the filter is mounted inside the shielded room.

Customized enclosures with RF gasketing on both compartments are also available upon request.

Do I need to filter the neutral line for 3-phase/4-wire power installations?

All electrical lines entering a shielded area must be filtered to prevent conducted emissions. Even though the neutral conductor may be grounded elsewhere in the installation, this is no guarantee that radiated signals will not induce additional conducted emission.

The neutral filter must also be rated for the full system power levels, since phase imbalances and short-circuit faults can cause substantial currents to flow in the neutral line.

What is the function of Electronic Surge Arrestors?

Although Corcom filter products are designed for heavy duty use and subjected to rigorous testing requirements, surge currents greater than the design parameters can cause damage to sensitive equipment which is only protected from conducted radio frequency emissions by the filter.

Electronic Surge Arrestors or ESAs limit over-voltage surges and spikes to levels which prevent damage to the user's equipment. ESA installations are also available which are designed for military applications to protect from the effects of electromagnetic pulses caused by nuclear detonations or EMP.

Why do I need filter discharge "bleeder" resistors?

Bleeder resistors drain away any residual charge which may remain across the filter's capacitors when the power is turned off within one minute. The purpose of this feature is to prevent the possibility of harmful electrical shock.

All Corcom power products above 10A per phase are equipped with external bleeder resistors.

When are "Power Factor Correction Coils" required?

Power factor correction coils are required for Corcom products in 400 Hz applications where power levels exceed 25A per phase.

All 400 Hz power filters in heavy power installations draw a high level of reactive current when compared with equivalent 50/60 Hz systems. To counteract this effect, external-mounted inductors can be placed in parallel with the filter's capacitors to provide more efficient operation and are specifically recommended.

Are Corcom filters "HEMP Certified"?

Although there is no such thing as a "HEMP Certified" product, the surge arrester equipped version of the CDEUL Series (rated up to 150A) and the TECUL Series (rated from 225A to 1200A) have been tested by others in accordance with MIL-STD-188-125-1 and proven to comply with the residual current limits defined by this specification. MIL-STD-188-125-1 clearly requires each and every installed filter to be acceptance and verification tested in-situ after installation.

CDEUW Series (Capacitive Input)

CDEUW Series



60 Hz Models Only

Filter Cabinet

- Modified NEMA I, constructed of not less than #14 gauge CRS with galvanized bulkhead
- Blue epoxy finish to all non-conductive surfaces
- R.F. Radiation of the shielded (load) compartment greater than 100 dB from 14 kHz to 10 GHz
- Front cover access, dual cover design
- Filter inserts pre-wired to standoffs and lugs
- Lifting hooks and mounting tabs
- Legs for floor mount available (see page 24)

Individual Filters

- Sealed components with welded and/or soldered seams
- Constructed of not less than #16 gauge steel with corrosion resistant plating
- Bleeder resistor to eliminate shock hazard provided
- Surge arrestors provided upon request†

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

100 dB from 14 kHz - 10 GHz per MIL-STD-220A, under standard load condition

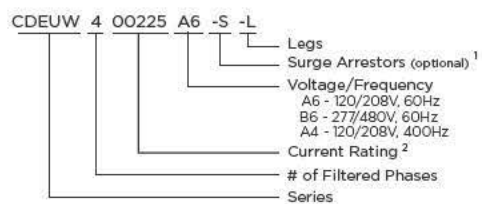
Applicable Publications:

- MIL-PRF-15733 — Filters, radio interference
- MIL-STD-202 — Test methods for Components
- MIL-STD-220A — Test method of Insertion Loss
- MIL-STD-285 — Test method for Shielding Effectiveness
- NFPA 70-1987 — National Electric Code
- 486A - 1983 — Wire Connectors and Lug
- UL1283 — UL standard for EMI Filters



Shown with optional legs
Center mounting bracket not installed on all sizes

How to Order:



Examples:

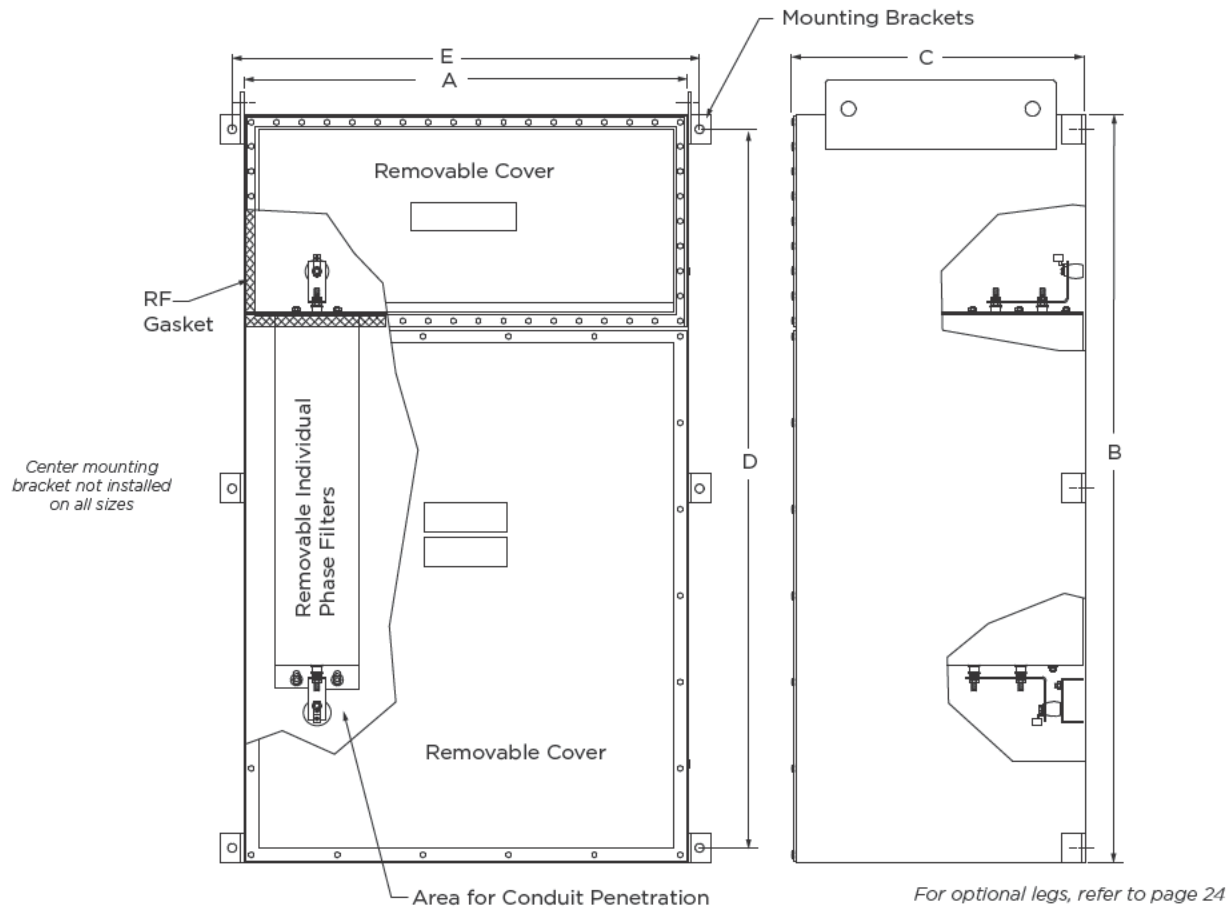
- CDEUW400225A6-S-L =
4, 225A CDEUW, 120/280V filters in cabinet
with surge arrestors and legs
- CDEUW300030B6 =
3, 30A CDEUW, 277/480V filters in cabinet

Note 1: Surge Arrestor for A6/A4* Models: V251BA60
Surge Arrestor for B6 Models: V481BA60

Note 2: Current configuration listed as 5 digits with leading zeros

† Not intended for HEMP applications. Refer to the CDEUL (<150A) page 12 or TECUL Series (>225A) page 14 for HEMP applications.

CDEUW Series (Capacitive Input) (continued)



Recommended torque for fasteners on removable cover: 25 in. lb. ± 3 in. lb.

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 10A	14.0	30.0	6.0	22.0	16.0	95
	<i>355.6</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>406.4</i>	<i>43.1</i>
3 @ 10A	20.0	30.0	6.0	22.0	22.0	100
	<i>508.0</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>558.8</i>	<i>45.4</i>
4 @ 10A	26.0	30.0	6.0	22.0	28.0	120
	<i>660.4</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>711.2</i>	<i>54.4</i>
2 @ 30A	16.0	38.0	8.0	26.0	18.0	170
	<i>406.4</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>457.2</i>	<i>77.1</i>
3 @ 30A	23.0	38.0	8.0	26.0	25.0	240
	<i>584.2</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>635.0</i>	<i>108.9</i>
4 @ 30A	30.0	38.0	8.0	26.0	32.0	300
	<i>762.0</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>812.8</i>	<i>136.1</i>
2 @ 60 or 100A	16.0	44.0	10.0	32.0	18.0	240
	<i>406.4</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>457.2</i>	<i>108.9</i>
3 @ 60 or 100A	23.0	44.0	10.0	32.0	25.0	310
	<i>584.2</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>635.0</i>	<i>140.6</i>
4 @ 60 or 100A	30.0	44.0	10.0	32.0	32.0	400
	<i>762.0</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>812.8</i>	<i>181.4</i>

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 150A	16.0	54.0	14.0	42.0	18.0	320
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>145.1</i>
3 @ 150A	23.0	54.0	14.0	42.0	25.0	430
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>195.0</i>
4 @ 150A	30.0	54.0	14.0	42.0	32.0	650
	<i>762.0</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>812.8</i>	<i>294.8</i>
2 @ 225A	16.0	54.0	14.0	42.0	18.0	380
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>172.4</i>
3 @ 225A	23.0	54.0	14.0	42.0	25.0	520
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>235.9</i>
4 @ 225A	30.0	54.0	14.0	42.0	32.0	700
	<i>762.0</i>	<i>1371.6</i>	<i>355.5</i>	<i>1066.8</i>	<i>812.8</i>	<i>317.5</i>

Max. Operating Voltage	
A6:	120/208V, 60 Hz
B6:	277/480V, 60 Hz
A4*:	120/208V, 400 Hz

*400Hz filters available upon request. Will require external power factor correction coil. Please contact TE Connectivity Application Engineering 847-573-6517.

CDEUX Series - Extended Range Buffer Networks (Capacitive Input)

CDEUX Series



60 Hz Models Only

Filter Cabinet

- Modified NEMA I, constructed of not less than #14 gauge CRS with galvanized bulkhead
- Blue epoxy finish to all non-conductive surfaces
- R.F. Radiation of the shielded (load) compartment greater than 100 dB from 14 kHz to 10 GHz
- Front cover access, dual cover design
- Filter inserts pre-wired to standoffs and lugs
- Lifting hooks and mounting tabs
- Legs for floor mount available (see page 24)

Individual Filters

- Sealed components with welded and/or soldered seams
- Constructed of not less than #16 gauge steel with corrosion resistant plating
- Bleeder resistor to eliminate shock hazard provided
- Surge arrestors provided upon request†

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

100 dB from 14 kHz - 10 GHz per MIL-STD-220A, under load condition, using extended range buffer networks over the frequency range of 14 kHz - 20 MHz

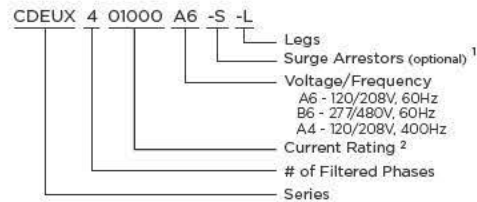
Applicable Publications:

- MIL-PRF-15733 – Filters, radio interference
- MIL-STD-202 – Test methods for Components
- MIL-STD-220A – Test method of Insertion Loss
- MIL-STD-285 – Test method for Shielding Effectiveness
- NFPA 70-1987 – National Electric Code
- 486A - 1983 – Wire Connectors and Lug
- UL1283 – UL standard for EMI Filters



Shown with optional legs
Center mounting bracket not installed on all sizes

How to Order:



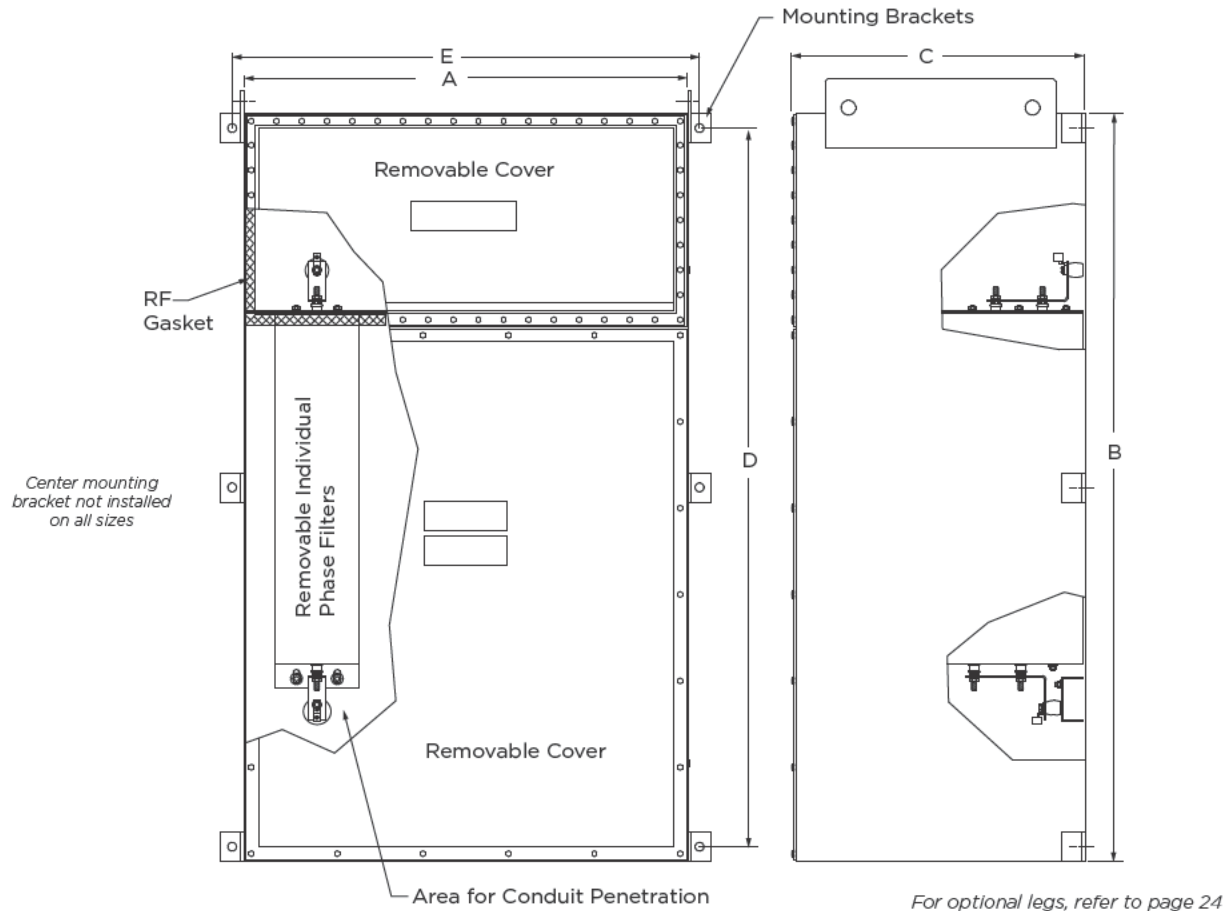
Examples:

- CDEUX401000A6-S-L =
4, 1000A CDEUX, 120/280V filters in cabinet with surge arrestors and legs
- CDEUX300030B6 =
3, 30A CDEUX, 277/480V filters in cabinet

- Note 1: Surge Arrestor for A6/A4* Models: V251BA60
Surge Arrestor for B6 Models: V481BA60
- Note 2: Current configuration listed as 5 digits with leading zeros

† Not intended for HEMP applications. Refer to the CDEUL (<150A) page 12 or TECUL Series (>225A) page 14 for HEMP applications.

CDEUX Series - Extended Range Buffer Networks (Capacitive Input)



Recommended torque for fasteners on removable cover: 25 in. lb. ± 3 in. lb.

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 10A	14.0	30.0	6.0	22.0	16.0	95
	<i>355.6</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>406.4</i>	<i>43.1</i>
3 @ 10A	20.0	30.0	6.0	22.0	22.0	100
	<i>508.0</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>558.8</i>	<i>45.4</i>
4 @ 10A	26.0	30.0	6.0	22.0	28.0	120
	<i>660.4</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>711.2</i>	<i>54.4</i>
2 @ 30A	16.0	38.0	8.0	26.0	18.0	170
	<i>406.4</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>457.2</i>	<i>77.1</i>
3 @ 30A	23.0	38.0	8.0	26.0	25.0	240
	<i>584.2</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>635.0</i>	<i>108.9</i>
4 @ 30A	30.0	38.0	8.0	26.0	32.0	300
	<i>762.0</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>812.8</i>	<i>136.1</i>
2 @ 60 or 100A	16.0	44.0	10.0	32.0	18.0	240
	<i>406.4</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>457.2</i>	<i>108.9</i>
3 @ 60 or 100A	23.0	44.0	10.0	32.0	25.0	310
	<i>584.2</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>635.0</i>	<i>140.6</i>
4 @ 60 or 100A	30.0	44.0	10.0	32.0	32.0	400
	<i>762.0</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>812.8</i>	<i>181.4</i>
2 @ 150A	16.0	54.0	14.0	42.0	18.0	320
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>145.1</i>
3 @ 150A	23.0	54.0	14.0	42.0	25.0	430
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>195.0</i>
4 @ 150A	30.0	54.0	14.0	42.0	32.0	650
	<i>762.0</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>812.8</i>	<i>294.8</i>

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 225A	16.0	54.0	14.0	42.0	18.0	380
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>172.4</i>
3 @ 225A	23.0	54.0	14.0	42.0	25.0	520
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>235.9</i>
4 @ 225A	30.0	54.0	14.0	42.0	32.0	700
	<i>762.0</i>	<i>1371.6</i>	<i>355.5</i>	<i>1066.8</i>	<i>812.8</i>	<i>317.5</i>
2 @ 400A	22.0	64.0	26.0	61.5	24.0	800
	<i>558.8</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>609.6</i>	<i>362.9</i>
3 @ 400A	30.0	64.0	26.0	61.5	32.0	1100
	<i>762.0</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>812.8</i>	<i>498.9</i>
4 @ 400A	38.0	64.0	26.0	61.5	40.0	1400
	<i>965.2</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>1016.0</i>	<i>635.0</i>
2 @ 800A	38.0	70.0	26.0	67.5	40.0	1400
	<i>965.2</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1016.0</i>	<i>635.0</i>
3 @ 800A	56.0	70.0	26.0	67.5	58.0	2100
	<i>1422.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1473.2</i>	<i>952.5</i>
4 @ 800A	72.0	70.0	26.0	67.5	74.0	2600
	<i>1828.8</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1879.6</i>	<i>1179.3</i>
2 @ 1000 or 1200A	56.0	70.0	26.0	67.5	58.0	2000
	<i>1422.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1473.2</i>	<i>907.2</i>
3 @ 1000 or 1200A	82.0	70.0	26.0	67.5	84.0	3000
	<i>2082.8</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>2133.6</i>	<i>1360.8</i>
4 @ 1000 or 1200A	106.0	70.0	26.0	67.5	108.0	3800
	<i>2692.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>2743.2</i>	<i>1723.6</i>

Max. Operating Voltage	
A6:	120/208V, 60 Hz
B6:	277/480V, 60 Hz
A4*:	120/208V, 400 Hz

*400Hz filters available upon request. Will require external power factor correction coil. Please contact TE Connectivity Application Engineering 847-573-6517.

CDEUL Series - Extended Range Buffer Networks (Inductive Input)

CDEUL Series



60 Hz Models Only

Filter Cabinet

- Modified NEMA 1, constructed of not less than #14 gauge CRS with galvanized bulkhead
- Blue epoxy finish to all non-conductive surfaces
- R.F. Radiation of the shielded (load) compartment greater than 100 dB from 14 kHz to 10 GHz
- Front cover access, dual cover design
- Filter inserts pre-wired to standoffs and lugs
- Lifting hooks and mounting tabs
- Legs for floor mount available (see page 24)

Individual Filters

- Sealed components with welded and/or soldered seams
- Constructed of not less than #16 gauge steel with corrosion resistant plating
- Bleeder resistor to eliminate shock hazard provided
- HEMP Surge arrestors provided upon request†

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

100 dB from 14 kHz - 10 GHz per MIL-STD-220A, under load condition, using extended range buffer networks over the frequency range of 14 kHz - 20 MHz

Applicable Publications:

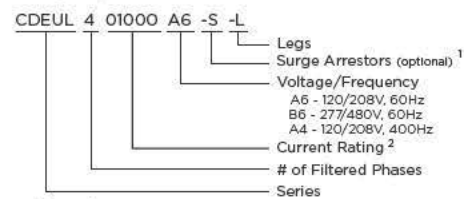
- MIL-PRF-15733 – Filters, radio interference
- MIL-STD-202 – Test methods for Components
- MIL-STD-220A – Test method of Insertion Loss
- MIL-STD-188-125 – HEMP
- MIL-STD-285 – Test method for Shielding Effectiveness
- NFPA 70-1987 – National Electric Code
- 486A - 1983 – Wire Connectors and Lug
- UL1283 – UL standard for EMI Filters

† Intended for HEMP applications ≤150A. For filters rated ≥225A refer to the new TECUL Series on page 14.



Shown with optional legs
Center mounting bracket not installed on all sizes

How to Order:



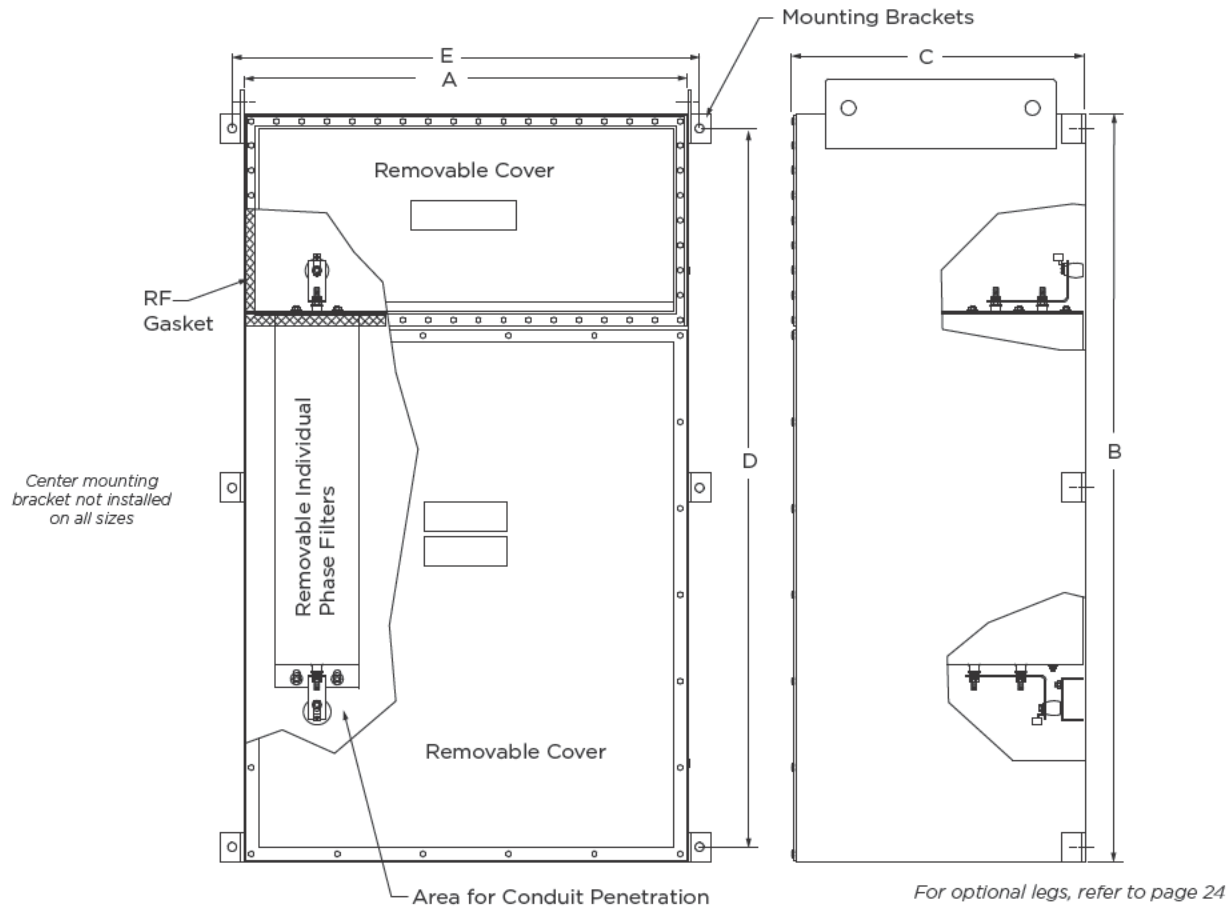
Examples:

- CDEUL401000A6-S-L =
4, 1000A CDEUL, 120/208V filters in cabinet
with surge arrestors and legs
- CDEUL300030B6 =
3, 30A CDEUL, 277/480V filters in cabinet

Note 1: Surge Arrestor for A6/A4* Models: V251BA60
Surge Arrestor for B6 Models: V481BA60

Note 2: Current configuration listed as 5 digits with leading zeros

CDEUL Series - ERBN (Inductive Input) (continued)



Recommended torque for fasteners on removable cover: 25 in. lb. ± 3 in. lb.

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 10A	14.0	30.0	6.0	22.0	16.0	95
	<i>355.6</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>406.4</i>	<i>43.1</i>
3 @ 10A	20.0	30.0	6.0	22.0	22.0	100
	<i>508.0</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>558.8</i>	<i>45.4</i>
4 @ 10A	26.0	30.0	6.0	22.0	28.0	120
	<i>660.4</i>	<i>762.0</i>	<i>152.4</i>	<i>558.8</i>	<i>711.2</i>	<i>54.4</i>
2 @ 30A	16.0	38.0	8.0	26.0	18.0	170
	<i>406.4</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>457.2</i>	<i>77.1</i>
3 @ 30A	23.0	38.0	8.0	26.0	25.0	240
	<i>584.2</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>635.0</i>	<i>108.9</i>
4 @ 30A	30.0	38.0	8.0	26.0	32.0	300
	<i>762.0</i>	<i>965.2</i>	<i>203.2</i>	<i>660.4</i>	<i>812.8</i>	<i>136.1</i>
2 @ 60 or 100A	16.0	44.0	10.0	32.0	18.0	240
	<i>406.4</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>457.2</i>	<i>108.9</i>
3 @ 60 or 100A	23.0	44.0	10.0	32.0	25.0	310
	<i>584.2</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>635.0</i>	<i>140.6</i>
4 @ 60 or 100A	30.0	44.0	10.0	32.0	32.0	400
	<i>762.0</i>	<i>1117.6</i>	<i>254.0</i>	<i>812.8</i>	<i>812.8</i>	<i>181.4</i>
2 @ 150A	16.0	54.0	14.0	42.0	18.0	320
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>145.1</i>
3 @ 150A	23.0	54.0	14.0	42.0	25.0	430
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>195.0</i>
4 @ 150A	30.0	54.0	14.0	42.0	32.0	650
	<i>762.0</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>812.8</i>	<i>294.8</i>

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 225A	16.0	54.0	14.0	42.0	18.0	380
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>172.4</i>
3 @ 225A	23.0	54.0	14.0	42.0	25.0	520
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>235.9</i>
4 @ 225A	30.0	54.0	14.0	42.0	32.0	700
	<i>762.0</i>	<i>1371.6</i>	<i>355.5</i>	<i>1066.8</i>	<i>812.8</i>	<i>317.5</i>
2 @ 400A	22.0	64.0	26.0	61.5	24.0	800
	<i>558.8</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>609.6</i>	<i>362.9</i>
3 @ 400A	30.0	64.0	26.0	61.5	32.0	1100
	<i>762.0</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>812.8</i>	<i>498.9</i>
4 @ 400A	38.0	64.0	26.0	61.5	40.0	1400
	<i>965.2</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>1016.0</i>	<i>635.0</i>
2 @ 800A	38.0	70.0	26.0	67.5	40.0	1400
	<i>965.2</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1016.0</i>	<i>635.0</i>
3 @ 800A	56.0	70.0	26.0	67.5	58.0	2100
	<i>1422.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1473.2</i>	<i>952.5</i>
4 @ 800A	72.0	70.0	26.0	67.5	74.0	2600
	<i>1828.8</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1879.6</i>	<i>1179.3</i>
2 @ 1000 or 1200A	56.0	70.0	26.0	67.5	58.0	2000
	<i>1422.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1473.2</i>	<i>907.2</i>
3 @ 1000 or 1200A	82.0	70.0	26.0	67.5	84.0	3000
	<i>2082.8</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>2133.6</i>	<i>1360.8</i>
4 @ 1000 or 1200A	106.0	70.0	26.0	67.5	108.0	3800
	<i>2692.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>2743.2</i>	<i>1723.6</i>

Max. Operating Voltage	
A6:	120/208V, 60 Hz
B6:	277/480V, 60 Hz
A4*:	120/208V, 400 Hz

*400Hz filters available upon request. Will require external power factor correction coil. Please contact TE Connectivity Application Engineering 847-573-6517.

TECUL Series - Extended Range Buffer Networks (Inductive Input)

TECUL Series

Filter Cabinet

- Modified NEMA 1, constructed of not less than #14 gauge CRS with galvanized bulkhead
- WHITE epoxy finish to all non-conductive surfaces
- Brush-plated electro-tin on all conductive surfaces
- R.F. Radiation of the shielded (load) compartment greater than 100 dB from 14 kHz to 10 GHz
- Front cover access, dual cover design
- Filter inserts pre-wired to standoffs and lugs
- Lifting hooks and mounting tabs
- Legs for floor mount available (see page 24)

Individual Filters

- Sealed components with welded seams
- Constructed of not less than #16 gauge steel with corrosion resistant plating
- Bleeder resistor to eliminate shock hazard provided
- HEMP Surge arrestors provided upon request†

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

100 dB from 14 kHz - 10 GHz per MIL-STD-220B, under load condition, using extended range buffer networks over the frequency range of 14 kHz - 20 MHz

Applicable Publications:

- MIL-PRF-15733 – Filters, radio interference
- MIL-STD-202 – Test methods for Components
- MIL-STD-220B – Test method of Insertion Loss
- MIL-STD-188-125-1 – HEMP
- MIL-STD-285 – Test method for Shielding Effectiveness
- NFPA 70-1987 – National Electric Code
- 486A - 1983 – Wire Connectors and Lug
- UL1283 – UL standard for EMI Filters

† Intended for HEMP applications $\geq 225A$. For filters rated $\leq 150A$ refer to the CDEUL Series on page 12.

Intertek Listed Filter Panel

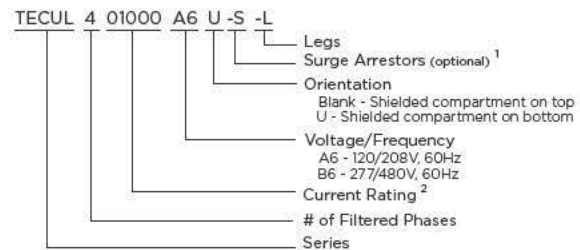


UL Recognized Filters



Shown with optional legs
Center mounting bracket not installed on all sizes

How to Order:



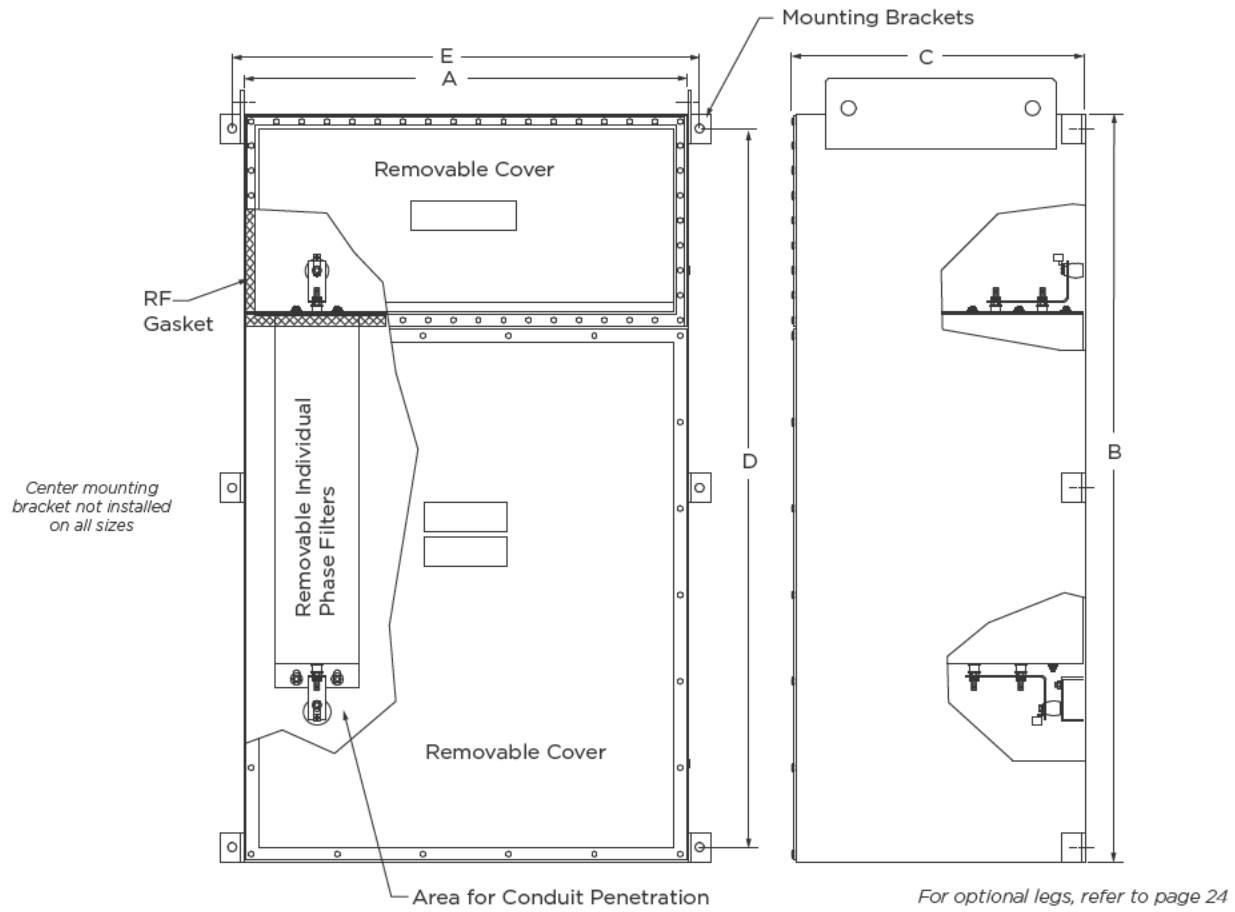
Examples:

- TECUL401000A6-S-L =
4 phases 1000A (each consisting of 3, 400A TECUL 120/208V filters) in a cabinet with surge arrestors and legs
- TECUL300225B6 =
3 phases 225A TECUL, 277/480V filters in cabinet

Note 1: Surge Arrestor for A6 Models: V251BA60
Surge Arrestor for B6 Models: V481BA60

Note 2: Current rating always listed as 5 digits with leading zeros

TECUL Series - ERBN (Inductive Input) (continued)



Recommended torque for fasteners on removable cover: 25 in. lb. ± 3 in. lb.

Max. Operating Voltage	
A6:	120/208V, 60 Hz
B6:	277/480V, 60 Hz

# Filtered phases @ rated current	Dimensions					Weight (Pounds/KG)
	A	B	C	D	E	
2 @ 225A	16.0	54.0	14.0	42.0	18.0	380
	<i>406.4</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>457.2</i>	<i>172.4</i>
3 @ 225A	23.0	54.0	14.0	42.0	25.0	520
	<i>584.2</i>	<i>1371.6</i>	<i>355.6</i>	<i>1066.8</i>	<i>635.0</i>	<i>235.9</i>
4 @ 225A	30.0	54.0	14.0	42.0	32.0	700
	<i>762.0</i>	<i>1371.6</i>	<i>355.5</i>	<i>1066.8</i>	<i>812.8</i>	<i>317.5</i>
2 @ 400A	22.0	64.0	26.0	61.5	24.0	800
	<i>558.8</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>609.6</i>	<i>362.9</i>
3 @ 400A	30.0	64.0	26.0	61.5	32.0	1100
	<i>762.0</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>812.8</i>	<i>498.9</i>
4 @ 400A	38.0	64.0	26.0	61.5	40.0	1400
	<i>965.2</i>	<i>1625.6</i>	<i>660.4</i>	<i>1562.1</i>	<i>1016.0</i>	<i>635.0</i>
2 @ 800A	38.0	70.0	26.0	67.5	40.0	1400
	<i>965.2</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1016.0</i>	<i>635.0</i>
3 @ 800A	56.0	70.0	26.0	67.5	58.0	2100
	<i>1422.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1473.2</i>	<i>952.5</i>
4 @ 800A	72.0	70.0	26.0	67.5	74.0	2600
	<i>1828.8</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1879.6</i>	<i>1179.3</i>
2 @ 1000 or 1200A	56.0	70.0	26.0	67.5	58.0	2000
	<i>1422.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>1473.2</i>	<i>907.2</i>
3 @ 1000 or 1200A	82.0	70.0	26.0	67.5	84.0	3000
	<i>2082.8</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>2133.6</i>	<i>1360.8</i>
4 @ 1000 or 1200A	106.0	70.0	26.0	67.5	108.0	3800
	<i>2692.4</i>	<i>1778.0</i>	<i>660.4</i>	<i>1714.5</i>	<i>2743.2</i>	<i>1723.6</i>

CDSUX-C Series - Extended Range Buffer Networks

CDSUX-C Series



60 Hz Models Only

Features

- Sealed, constructed of 16 gauge cold rolled steel
- All non-conductive surfaces protected with suitable painting or electroplating
- Removable input cover for terminal access and field wiring connection
- Threaded conduit fitting with flexible lead on the load side
- Knockouts provided on the input side
- Discharge bleeder resistor provided to reduce shock hazard
- Surge protector provided upon request

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

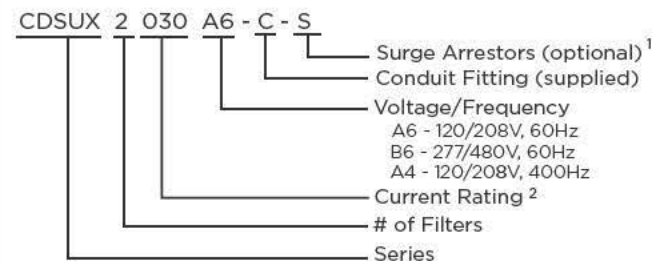
100 dB from 14 kHz - 10 GHz per MIL-STD-220A, under load condition, using extended range buffer networks over the frequency range of 14 kHz - 20 MHz

Applicable Publications:

- MIL-PRF-15733 – Filters, radio interference
- MIL-STD-202 – Test methods for Components
- MIL-STD-220A – Test method of Insertion Loss
- MIL-STD-285 – Test method for Shielding Effectiveness
- NFPA 70-1987 – National Electric Code
- 486A - 1983 – Wire Connectors and Lug
- UL1283 – UL standard for EMI Filters



How to Order:

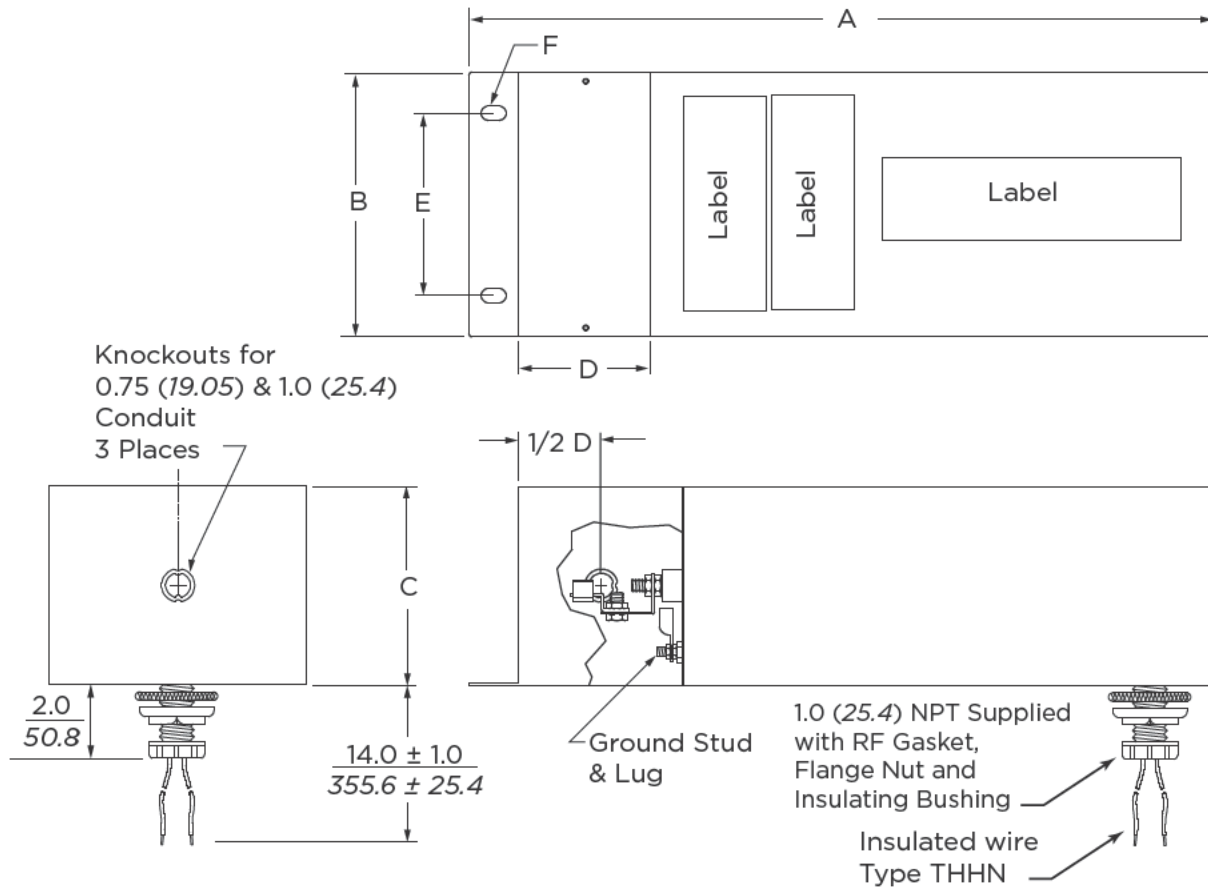


Examples: CDSUX2030A6-C-S, CDSUX1010B6-C

Note 1: Surge Arrestor for A6/A4* Models: V251BA60
Surge Arrestor for B6 Models: V481BA60

Note 2: Current configuration listed as 3 digits with leading zeros

CDSUX-C Series - Extended Range Buffer Networks *(continued)*



CDSUX	Rated Current	Dimensions						Wire Gauge (AWG/mm ²)	Approx. Weight (Pounds/KG)
		A ±0.63 [1.6]	B ±0.63 [1.6]	C ±0.63 [1.6]	D	E	F		
1010**-C	10A	21.0	4.0	5.0	5.0	3.0	.31 x .50	10	15
		<i>533.4</i>	<i>101.6</i>	<i>127.0</i>	<i>127.0</i>	<i>76.2</i>	<i>7.87 x 12.7</i>	<i>5.26</i>	<i>6.80</i>
2010**-C	2 @ 10A	21.0	8.0	5.0	5.0	5.5	.43 x .75	10	30
		<i>533.4</i>	<i>203.2</i>	<i>127.0</i>	<i>127.0</i>	<i>139.7</i>	<i>10.9 x 19.1</i>	<i>5.26</i>	<i>13.6</i>
1030**-C	30A	26.0	6.0	6.0	5.0	4.0	.31 x .50	6	30
		<i>660.4</i>	<i>152.4</i>	<i>152.4</i>	<i>127.0</i>	<i>101.6</i>	<i>7.87 x 12.7</i>	<i>13.20</i>	<i>13.6</i>
2030**-C	2 @ 30A	26.0	12.0	6.0	5.0	9.0	.43 x .75	6	60
		<i>660.4</i>	<i>304.8</i>	<i>152.4</i>	<i>127.0</i>	<i>228.6</i>	<i>10.9 x 19.1</i>	<i>13.20</i>	<i>27.2</i>
1060**-C	60A	32.0	8.0	6.0	6.0	5.5	.43 x .75	6	60
		<i>812.8</i>	<i>203.2</i>	<i>152.4</i>	<i>152.4</i>	<i>139.7</i>	<i>10.9 x 19.1</i>	<i>13.20</i>	<i>27.2</i>
1100**-C	100A	34.0	8.0	6.0	8.0	5.5	.43 x .75	2	70
		<i>863.6</i>	<i>203.2</i>	<i>152.4</i>	<i>203.2</i>	<i>139.7</i>	<i>10.9 x 19.1</i>	<i>33.6</i>	<i>31.8</i>
1150**-C	150A	41.0	10.0	6.0	9.0	9.0	.43 x .75	0	90
		<i>1041.4</i>	<i>254.0</i>	<i>152.4</i>	<i>228.6</i>	<i>228.6</i>	<i>10.9 x 19.1</i>	<i>53.5</i>	<i>40.8</i>
1225**-C	225A	41.0	10.0	6.0	9.0	9.0	.43 x .75	250 MCM	120
		<i>1041.4</i>	<i>254.0</i>	<i>152.4</i>	<i>228.6</i>	<i>228.6</i>	<i>10.9 x 19.1</i>	<i>126.0</i>	<i>54.4</i>

*400Hz filters available upon request. Will require external power factor correction coil. Please contact TE Connectivity Application Engineering 1-847-573-6517.

Max. Operating Voltage	
A6:	120/208V, 60 Hz
B6:	277/480V, 60 Hz
A4*:	120/208V, 400 Hz

CDSUW-C Series

CDSUW-C Series



60 Hz Models Only

Features

- Sealed, constructed of 16 gauge cold rolled steel
- All non-conductive surfaces protected with suitable painting or electroplating
- Removable input cover for terminal access and field wiring connection
- Threaded conduit fitting with flexible lead on the load side
- Knockouts provided on the input side
- Discharge bleeder resistor provided to reduce shock hazard
- Surge protector provided upon request

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

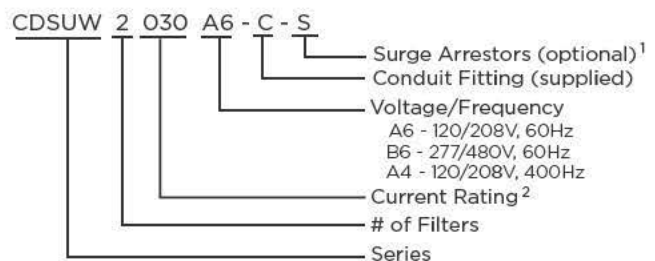
100 dB from 14 kHz - 10 GHz per MIL-STD-220A, under load condition

Applicable Publications:

- MIL-PRF-15733 — Filters, radio interference
- MIL-STD-202 — Test methods for Components
- MIL-STD-220A — Test method of Insertion Loss
- MIL-STD-285 — Test method for Shielding Effectiveness
- NFPA 70-1987 — National Electric Code
- 486A - 1983 — Wire Connectors and Lug
- UL1283 — UL standard for EMI Filters



How to Order:

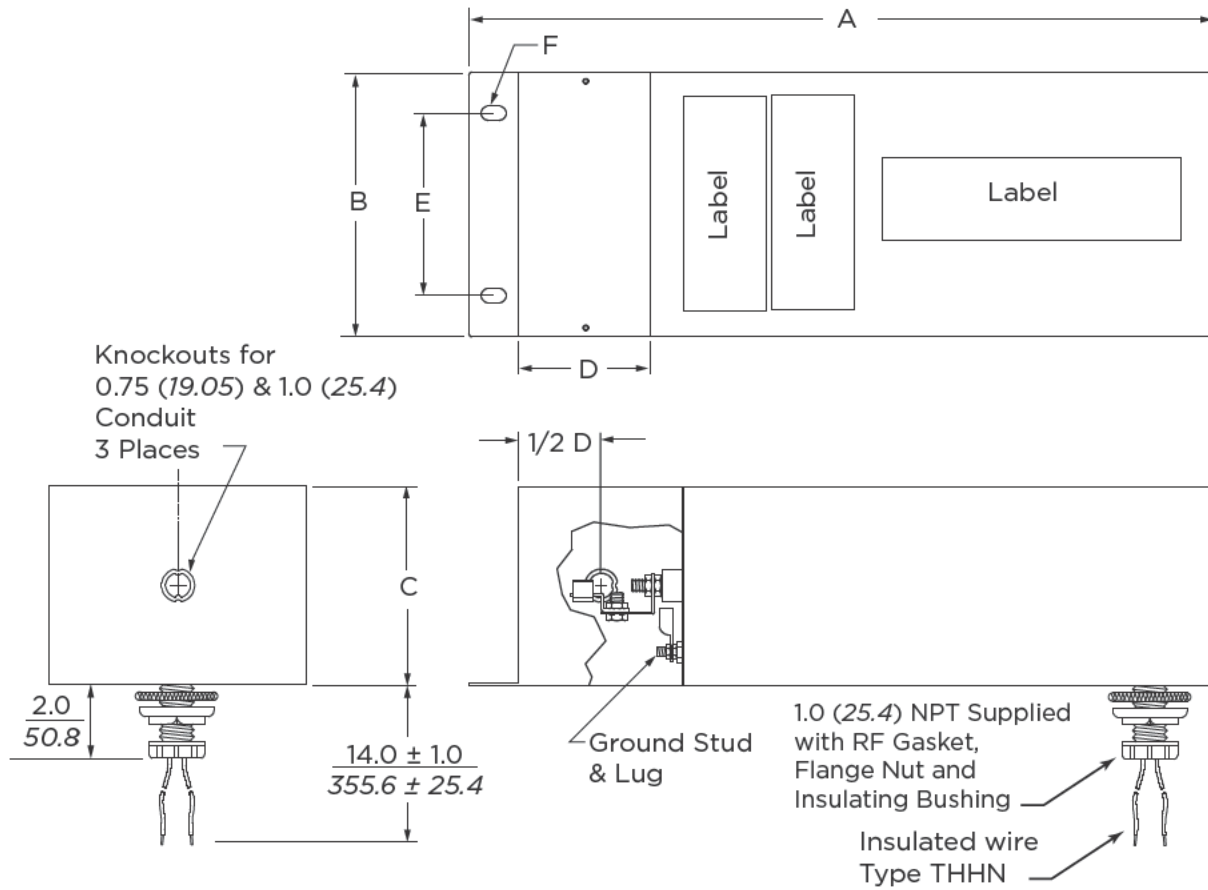


Examples: CDSUW2030A6-C-S, CDSUW1010B6-C

Note 1: Surge Arrestor for A6/A4* Models: V251BA60
Surge Arrestor for B6 Models: V481BA60

Note 2: Current configuration listed as 3 digits with leading zeros

CDSUW-C Series (continued)



CDSUW	Rated Current	Dimensions						Wire Gauge (AWG/mm ²)	Approx. Weight (Pounds/KG)
		A ±.063 [1.6]	B ±.063 [1.6]	C ±.063 [1.6]	D	E	F		
1010**-C	10A	21.0	4.0	5.0	5.0	3.0	.31 x .50	10	15
		<i>533.4</i>	<i>101.6</i>	<i>127.0</i>	<i>127.0</i>	<i>76.2</i>	<i>7.87 x 12.7</i>	<i>5.26</i>	<i>6.80</i>
2010**-C	2 @ 10A	21.0	8.0	5.0	5.0	5.5	.43 x .75	10	30
		<i>533.4</i>	<i>203.2</i>	<i>127.0</i>	<i>127.0</i>	<i>139.7</i>	<i>10.9 x 19.1</i>	<i>5.26</i>	<i>13.6</i>
1030**-C	30A	26.0	6.0	6.0	5.0	4.0	.31 x .50	6	30
		<i>660.4</i>	<i>152.4</i>	<i>152.4</i>	<i>127.0</i>	<i>101.6</i>	<i>7.87 x 12.7</i>	<i>13.20</i>	<i>13.6</i>
2030**-C	2 @ 30A	26.0	12.0	6.0	5.0	9.0	.43 x .75	6	60
		<i>660.4</i>	<i>304.8</i>	<i>152.4</i>	<i>127.0</i>	<i>228.6</i>	<i>10.9 x 19.1</i>	<i>13.20</i>	<i>27.2</i>
1060**-C	60A	32.0	8.0	6.0	6.0	5.5	.43 x .75	6	60
		<i>812.8</i>	<i>203.2</i>	<i>152.4</i>	<i>152.4</i>	<i>139.7</i>	<i>10.9 x 19.1</i>	<i>13.20</i>	<i>27.2</i>
1100**-C	100A	34.0	8.0	6.0	8.0	5.5	.43 x .75	2	70
		<i>863.6</i>	<i>203.2</i>	<i>152.4</i>	<i>203.2</i>	<i>139.7</i>	<i>10.9 x 19.1</i>	<i>33.6</i>	<i>31.8</i>
1150**-C	150A	41.0	10.0	6.0	9.0	9.0	.43 x .75	0	90
		<i>1041.4</i>	<i>254.0</i>	<i>152.4</i>	<i>228.6</i>	<i>228.6</i>	<i>10.9 x 19.1</i>	<i>53.5</i>	<i>40.8</i>
1225**-C	225A	41.0	10.0	6.0	9.0	9.0	.43 x .75	250 MCM	120
		<i>1041.4</i>	<i>254.0</i>	<i>152.4</i>	<i>228.6</i>	<i>228.6</i>	<i>10.9 x 19.1</i>	<i>126.0</i>	<i>54.4</i>

*400Hz filters available upon request. Will require external power factor correction coil. Please contact TE Connectivity Application Engineering 847-573-6517.

Max. Operating Voltage	
A6:	120/208V, 60 Hz
B6:	277/480V, 60 Hz
A4*:	120/208V, 400 Hz

CDSUA Series

CDSUA Series

Features

- All four current ratings utilize a single housing (single-wire 30, 60, 100A and two-wire 30A)
- Sealed using 18 AWG steel suitably plated housing
- Removable input cover provides quick access to terminals
- Three knockouts on the input side
- Discharge bleeder resistor provided to reduce shock hazard
- Surge protector provided upon request

Electrical Characteristics

Voltage Drop:

Less than 1% @ unity power factor

Overload:

140% of rated current for 15 minutes

Harmonic Distortion:

Less than 2% @ full rated current

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E

Current Rating:

Singe-wire 30, 60 and 100A, two-wire 30A

R.F. Radiation:

100 dB minimum shielding effectiveness

Insertion Loss:

100 dB from 100 kHz - 10 GHz per MIL-STD-220A

Operating Frequency:

50/60Hz

Operating Voltage:

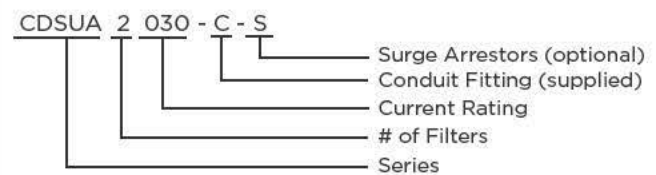
Line to Ground: 277 VAC (max)
Line to Line: 480 VAC (max)

Applicable Publications:

UL1283 – UL standard for EMI Filters

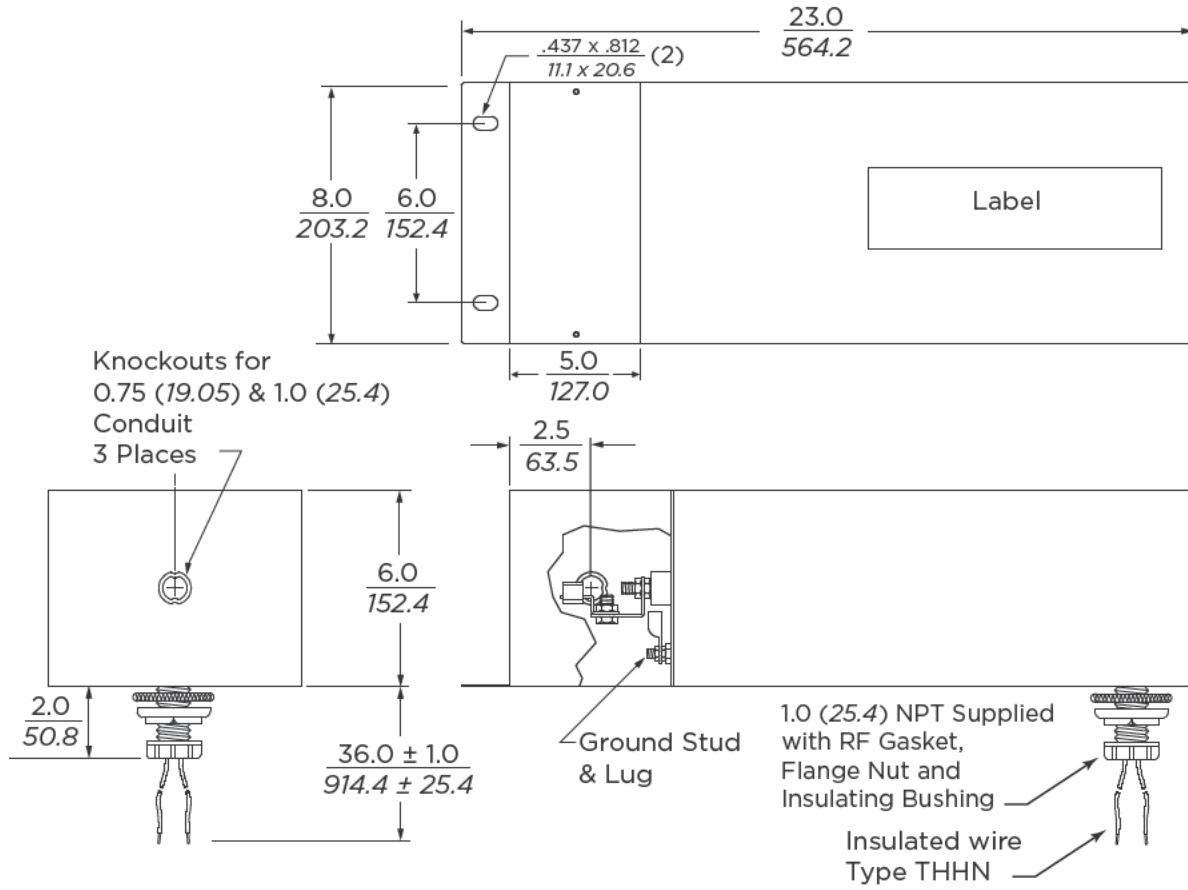


How to Order:



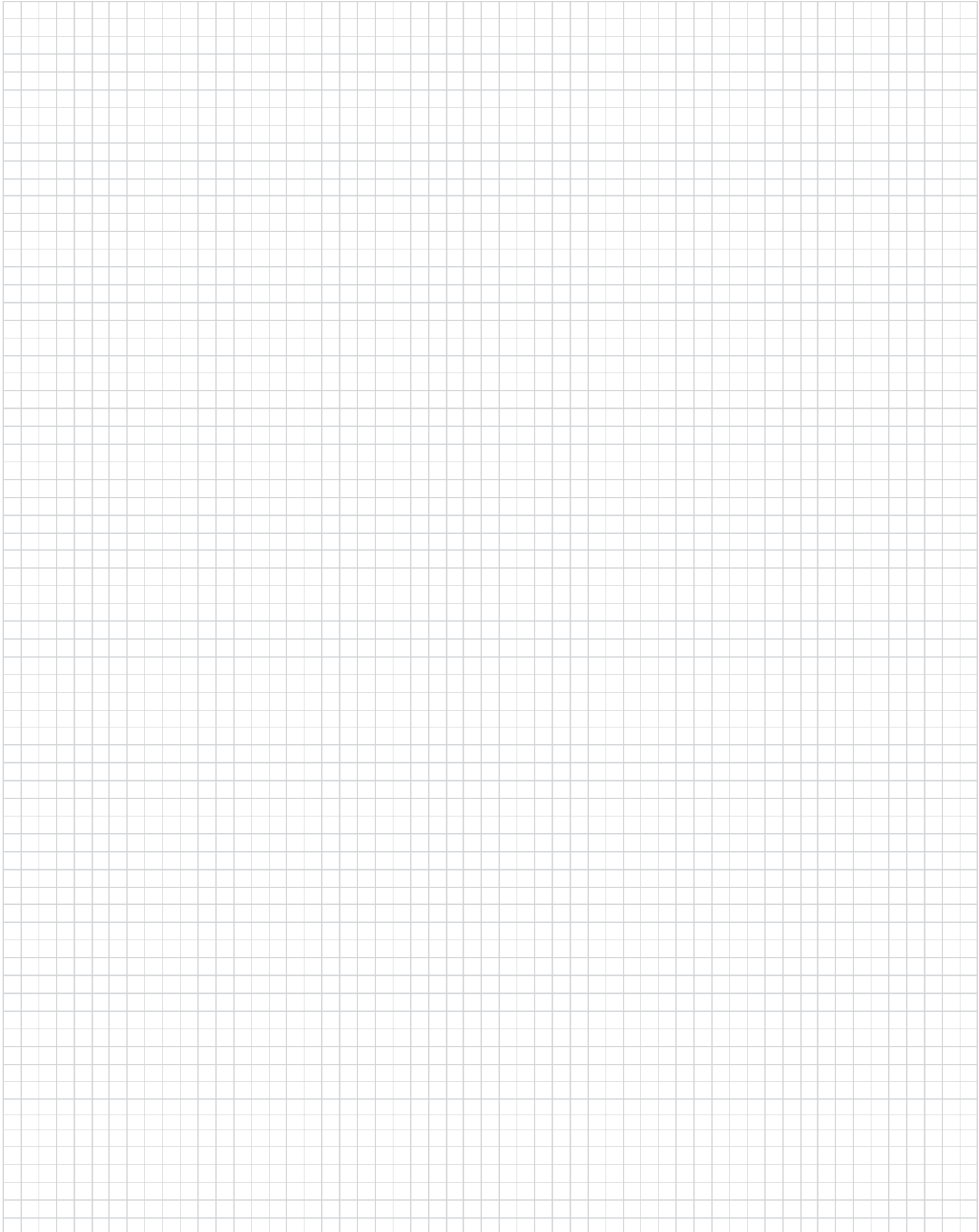
Examples: CDSUA1030-C, CDSUA2030-C-S

CDSUA Series (continued)



Part Nos.	Rated Current	Wire Gauge (AWG)	# of Wires
CDSUA1030-C	30A	6	1
CDSUA1060-C	60A	6	1
CDSUA1100-C	100A	1	1
CDSUA2030-C	2 @ 30A	6	2

Engineering Notes



Power Factor Correction Coils (Three Phase)

Features

- Used to cancel part of the undesirable capacitive-reactive current due to the line-to-ground capacitors in Power Line Filters operating at 400 Hz power
- Coils are optional for CDEUX, CDEUW, CDEUL, TECUL, CDSUW and CDSUX filters

Electrical Characteristics

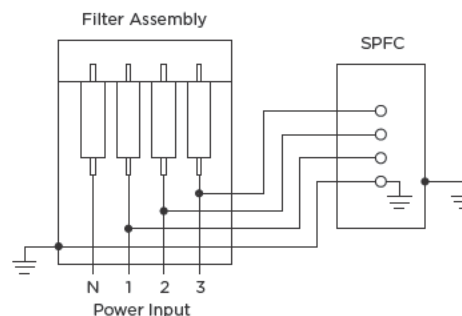
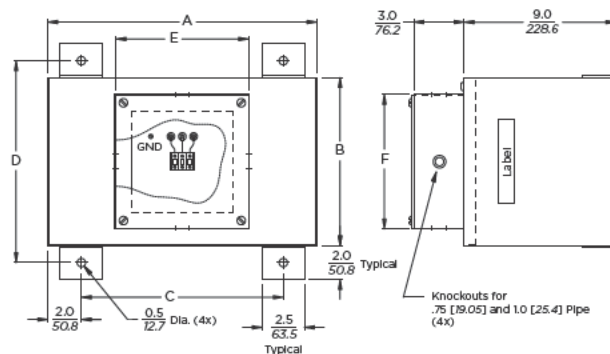
Voltage Rating:
120/208 VAC/400 Hz

Temperature Rise:
Case temperature rise shall not exceed 35°C when operating at an ambient temperature of 25°C

Materials

- Unit Case:**
- #16GA min. steel
 - All surfaces painted

Power factor correction coils are also available for single phase products. Contact Product Engineering at 847-573-6517



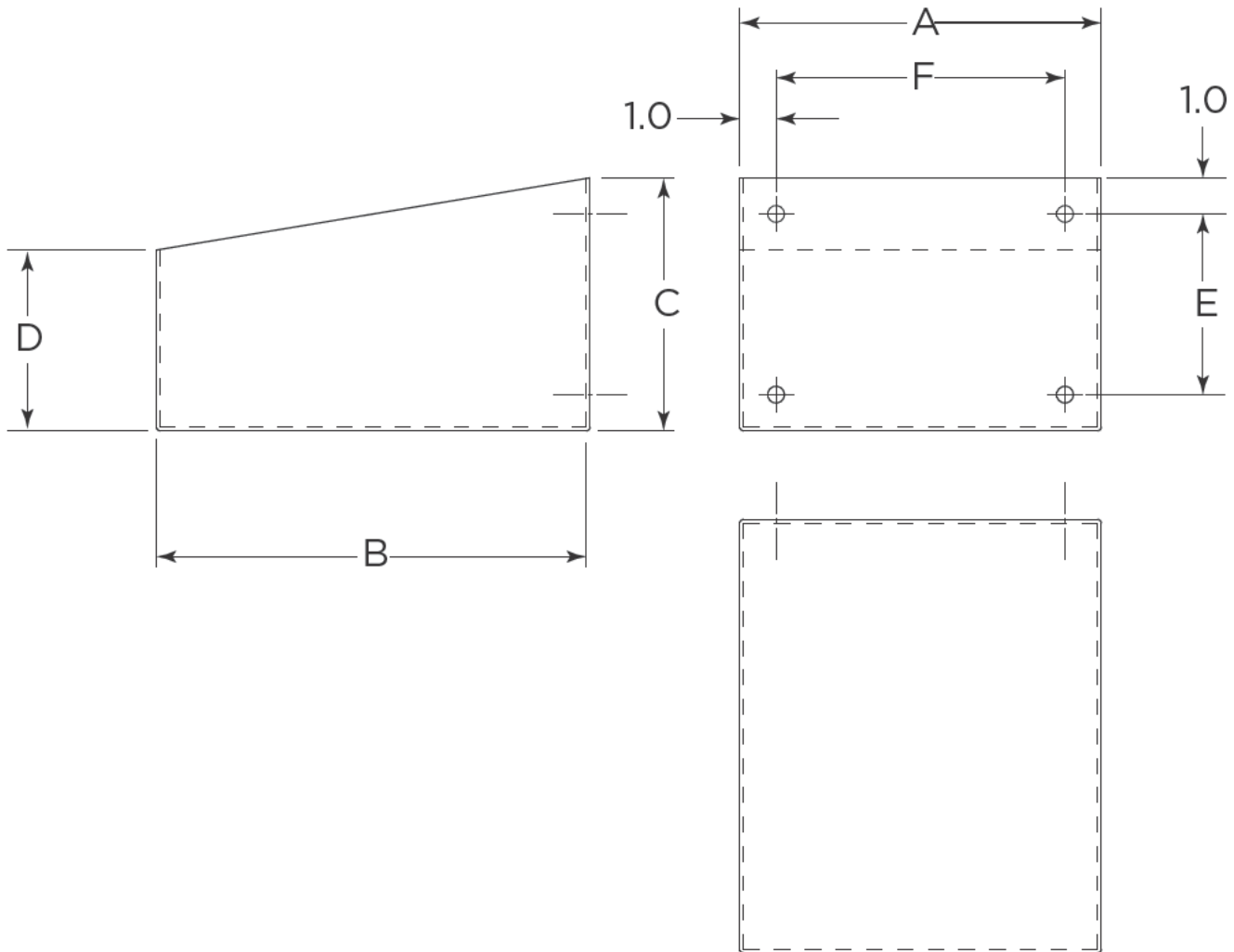
Part Nos.	Catalog No.	Dimensions ±0.06 [1.52]						Current per Phase	Used For
		A	B	C	D	E	F		
1609206-2	SPFC301	16.0 406.4	10.0 254.0	12.0 304.8	12.0 304.8	8.0 203.2	8.0 203.2	12A	CDEUL, TECUL, CDEUX CDEUW, CDSUW, CDSUX *****030A4
1609206-4	SPFC302	18.0 457.2	11.0 279.4	14.0 355.6	13.0 330.2	8.0 203.2	8.0 203.2	24A	CDEUL, TECUL, CDEUX CDEUW, CDSUW, CDSUX *****060A4
1609206-6	SPFC303	18.0 457.2	16.0 406.4	14.0 355.6	18.0 457.2	14.0 355.6	12.0 304.8	36A	CDEUL, TECUL, CDEUX CDEUW, CDSUW, CDSUX *****100A4
1609206-7	SPFC304	20.0 508.0	20.0 508.0	16.0 406.4	22.0 558.8	14.0 355.6	12.0 304.8	48A	CDEUL, TECUL, CDEUX CDEUW, CDSUW, CDSUX *****225A4



NEMA Cabinet Legs

NEMA Cabinet Legs

For use with CDEUX, CDEUW, CDEUL and TECUL Series NEMA Cabinet Style Filters



Each Leg requires the following additional installation hardware *(sold separately)*

TE part #	Description	Qty
4-1609604-6	Screw, 7-16 x 1" L	4
4-1609555-6	Nut, Hex 7/16-14	4
4-1609422-5	Washer, Flat, 7/16"	8
4-1609428-5	Washer, Lock, 7/16"	4

Filter cabinets specified with factory installed legs are supplied with legs continuously welded to the exterior of the filter enclosure. No penetrations are made in the enclosure to accommodate the legs.

Field installation of legs to existing cabinets requires modification of the filter enclosure to accommodate mounting hardware through the cabinet.

NEMA Cabinet Legs *(continued)*

Dimensions

Part	For Use with	A	B	C	D	E	F
LU10	CDEUL, CDEUX & CDEUW 10A	5.00 <i>127.00</i>	12.00 <i>304.80</i>	6.00 <i>152.40</i>	4.00 <i>101.60</i>	4.00 <i>101.60</i>	3.00 <i>76.20</i>
LU30	CDEUL, CDEUX & CDEUW 30A	6.75 <i>171.45</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	4.75 <i>120.65</i>
LU100	CDEUL, CDEUX & CDEUW 60A & 100A	8.75 <i>222.25</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	6.75 <i>171.45</i>
LU150	CDEUL, CDEUX & CDEUW 150A	11.50 <i>292.10</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	9.50 <i>241.30</i>
LU225	CDEUL, CDEUX & CDEUW 225A	12.75 <i>323.85</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	10.75 <i>273.05</i>
LU400	CDEUL, CDEUX & CDEUW 400A	24.75 <i>628.65</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	22.75 <i>577.85</i>
LU800	CDEUL, CDEUX & CDEUW 600A, 800A & 1200A *	24.75 <i>628.65</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	10.00 <i>254.00</i>	10.00 <i>254.00</i>	22.75 <i>577.85</i>
LU1200C	CDEUL, CDEUX & CDEUW 1200A *	24.75 <i>628.65</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	10.00 <i>254.00</i>	22.75 <i>577.85</i>
LF10	CDEFX & CDEFW 5A & 10A	4.00 <i>101.60</i>	12.00 <i>304.80</i>	5.00 <i>127.00</i>	3.00 <i>76.20</i>	3.00 <i>76.20</i>	2.00 <i>50.80</i>
LF50	CDEFX & CDEFW 25A & 50A	5.75 <i>146.05</i>	12.00 <i>304.80</i>	5.00 <i>127.00</i>	3.00 <i>76.20</i>	3.00 <i>76.20</i>	3.75 <i>95.25</i>
LF100	CDEFX & CDEFW 100A	8.50 <i>215.90</i>	12.00 <i>304.80</i>	6.00 <i>152.40</i>	4.00 <i>101.60</i>	4.00 <i>101.60</i>	6.50 <i>165.10</i>
LF150	CDEFX & CDEFW 150A	9.25 <i>234.95</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	7.25 <i>184.15</i>
LF200	CDEFX & CDEFW 200A	11.00 <i>279.40</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	9.00 <i>228.60</i>
LF300	CDEFX & CDEFW 300A	19.00 <i>482.60</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	17.00 <i>431.80</i>
LF400	CDEFX & CDEFW 400A	23.00 <i>584.20</i>	12.00 <i>304.80</i>	7.00 <i>177.80</i>	5.00 <i>127.00</i>	5.00 <i>127.00</i>	21.00 <i>533.40</i>
LF600	CDEFX & CDEFW 600A	18.75 <i>476.25</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	10.00 <i>254.00</i>	10.00 <i>254.00</i>	16.75 <i>425.45</i>
LF800	CDEFX & CDEFW 800A & 1000A **	22.75 <i>577.85</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	10.00 <i>254.00</i>	10.00 <i>254.00</i>	20.75 <i>527.05</i>
LF1000C	CDEFX & CDEFW 1000A **	22.75 <i>577.85</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	12.00 <i>304.80</i>	10.00 <i>254.00</i>	20.75 <i>527.05</i>

* 1200A Models require two LU800 and one LU1200C. The LU1200C is the Center Leg only.

** 1000A Models require two LF800 and one LF1000C. The LF1000C is the Center Leg only

SLA Series — Cabinets and Signal/Data/Control Filters

SLA Series

Enclosure

- Modified NEMA I, constructed of not less than #14 gauge CRS with galvanized bulkhead
- Blue epoxy finish to all non-conductive surfaces
- R. F. Radiation of the shielded (load) side greater than 100 dB up to 10 GHz
- Front cover access
- Pre-wired push pin terminal blocks or screw type terminations
- MOV or Gas tube arrestors installed upon request
- Legs for floor mount available

Individual Filters

- Each filter is a dual circuit
- Sealed with soldered seams
- Covered with suitable plating
- Designed and tested per MIL-PRF-15733, latest revision

Filter Selection *(Part Numbers for Ordering)*

- WFV3470 — Telephone (KS20162)
- WFV3544 — Telephone (Standard)
- WFV3577 — Telephone (Special)
- WFV3561 — Data (9.6 KBAUD)
- WFV3562 — Data (19.2 KBAUD)
- WFV3563 — Data (56.0 KBAUD)
- WFV3564 — Fire Alarm
- WFV3575 — Intercom
- NF21590 — Control (1.0 A)
- NF21593-3 — Control (3.0 A)
- NF21593-5 — Control (5.0 A)

Applicable Publications:

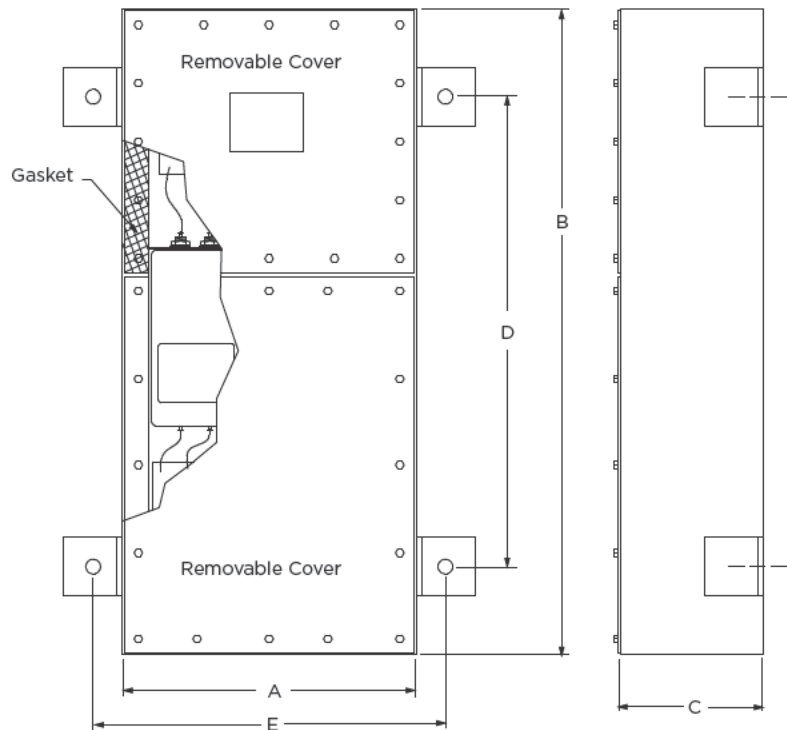
- MIL-PRF-15733 — Filters, Radio Interference
- MIL-STD-220 — Test Method of Insertion Loss



SLA Series – Cabinets and Signal/Data/Control Filters *(continued)*

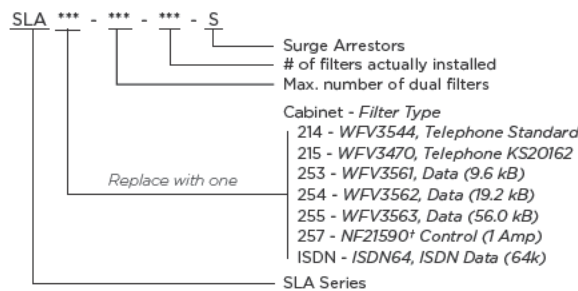
SLA Series Cabinets for use with 1.25” Filters

Cabinet	Accommodates 1.25” Filter
214	WFV3544, Telephone Standard
215	WFV3470, Telephone KS20162
253	WFV3561, Data (9.6 kB)
254	WFV3562, Data (19.2 kB)
255	WFV3563, Data (56.0 kB)
257	NF21590† Control (1A)
ISDN	SDN64, ISDN Data (64k)



Enclosure w/Filters	Number of Dual Filters	Dimensions					Approx. Weight (Pounds/KG)
		A ±.125 [3.18]	B ±.25 [3.18]	C ±.25 [6.4]	D ±.06 [1.5]	E ±.06 [1.5]	
SLA***-4	4	8.0 <i>203.2</i>	20.0 <i>508.0</i>	5.0 <i>127.0</i>	14.0 <i>355.6</i>	10.0 <i>254.0</i>	18 <i>8.16</i>
SLA***-10	10	18.0 <i>457.2</i>	20.0 <i>508.0</i>	5.0 <i>127.0</i>	14.0 <i>355.6</i>	20.0 <i>508.0</i>	45 <i>20.4</i>
SLA***-25	25	18.0 <i>457.2</i>	24.0 <i>609.6</i>	9.5 <i>241.3</i>	18.0 <i>457.2</i>	20.0 <i>508.0</i>	90 <i>40.8</i>
SLA***-50	50	32.0 <i>812.8</i>	26.0 <i>660.4</i>	9.5 <i>241.3</i>	20.0 <i>508.0</i>	34.0 <i>863.6</i>	115 <i>52.2</i>
SLA***-100	100	42.0 <i>1066.8</i>	28.0 <i>711.2</i>	12.75 <i>323.8</i>	22.0 <i>558.8</i>	44.0 <i>1117.6</i>	285 <i>129.3</i>
SLA***-150	150	32.0 <i>823.8</i>	50.0 <i>1270.0</i>	15.5 <i>393.7</i>	44.0 <i>1117.6</i>	34.0 <i>863.6</i>	475 <i>215.5</i>
SLA***-200	200	34.0 <i>863.6</i>	64.0 <i>1625.6</i>	15.5 <i>393.7</i>	61.5 <i>1562.1</i>	36.0 <i>914.4</i>	650 <i>294.8</i>

How to Order:



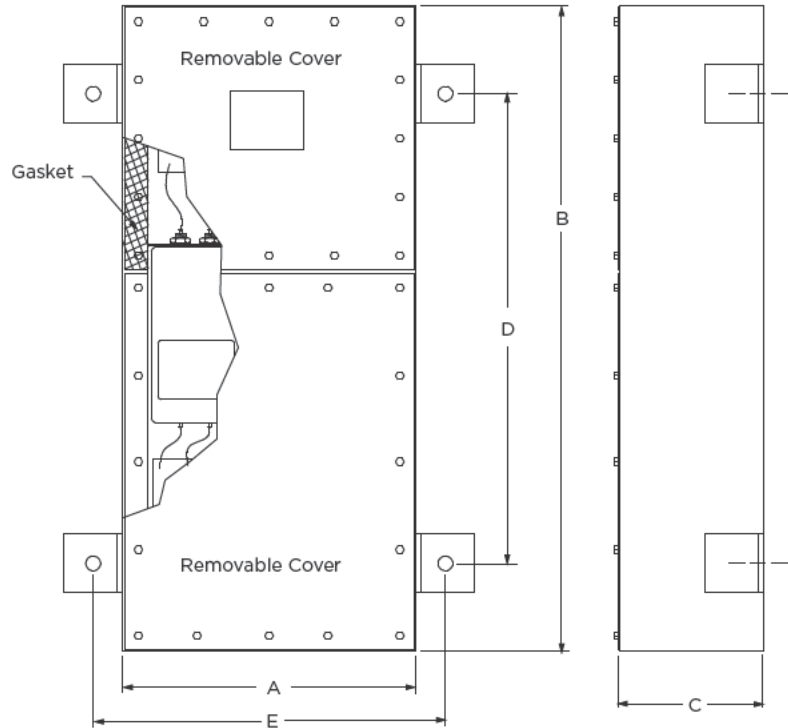
Example: SLA214-100-75-S =
75 Telephone Filters installed inside 100 space cabinet with surge arrestors

† NFL21590 inductive input version provided when used with surge arrestor

SLA Series – Cabinets and Signal/Data/Control Filters *(continued)*

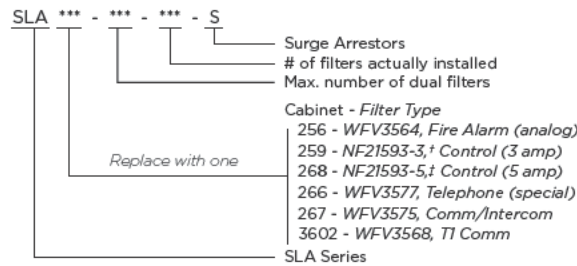
SLA Series Cabinets for use with 1.75” Filters

Cabinet	Accommodates 1.75” Filter
256	WFV3564, Fire Alarm (analog)
259	NF21593-3,† Control (3A)
268	NF21593-5,‡ Control (5A)
266	WFV3577, Telephone (special)
267	WFV3575, Comm/Intercom
3602	WFV3568, T1 Comm



Enclosure w/Filters	Number of Dual Filters	Dimensions					Approx. Weight (Pounds/KG)
		A ±.125 [3.18]	B ±.125 [3.18]	C ±.25 [6.4]	D ±.06 [1.5]	E ±.06 [1.5]	
SLA***-4	4	10.0	22.0	6.0	12.0	12.0	20
		<i>254.0</i>	<i>558.8</i>	<i>152.4</i>	<i>304.8</i>	<i>304.8</i>	9.08
SLA***-10	10	20.0	22.0	6.0	22.0	22.0	50
		<i>508.0</i>	<i>558.8</i>	<i>152.4</i>	<i>558.8</i>	<i>558.8</i>	22.7
SLA***-25	25	20.0	28.0	12.0	22.0	22.0	140
		<i>508.0</i>	<i>711.2</i>	<i>304.8</i>	<i>558.8</i>	<i>558.8</i>	63.5
SLA***-50	50	38.0	28.0	12.0	22.0	40.0	250
		<i>965.2</i>	<i>711.2</i>	<i>304.8</i>	<i>558.8</i>	<i>1016.0</i>	113.4
SLA***-100	100	54.0	30.0	15.0	24.0	56.0	450
		<i>1371.6</i>	<i>762.0</i>	<i>381.0</i>	<i>609.6</i>	<i>1422.4</i>	204.2
SLA***-150	150	36.0	64.0	18.0	56.0	38.0	670
		<i>914.4</i>	<i>1625.6</i>	<i>457.2</i>	<i>1422.4</i>	<i>965.2</i>	303.9
SLA***-200	200	42.0	72.0	22.0	64.0	44.0	1000
		<i>1066.8</i>	<i>1828.8</i>	<i>558.8</i>	<i>1625.6</i>	<i>1117.6</i>	453.6

How to Order:

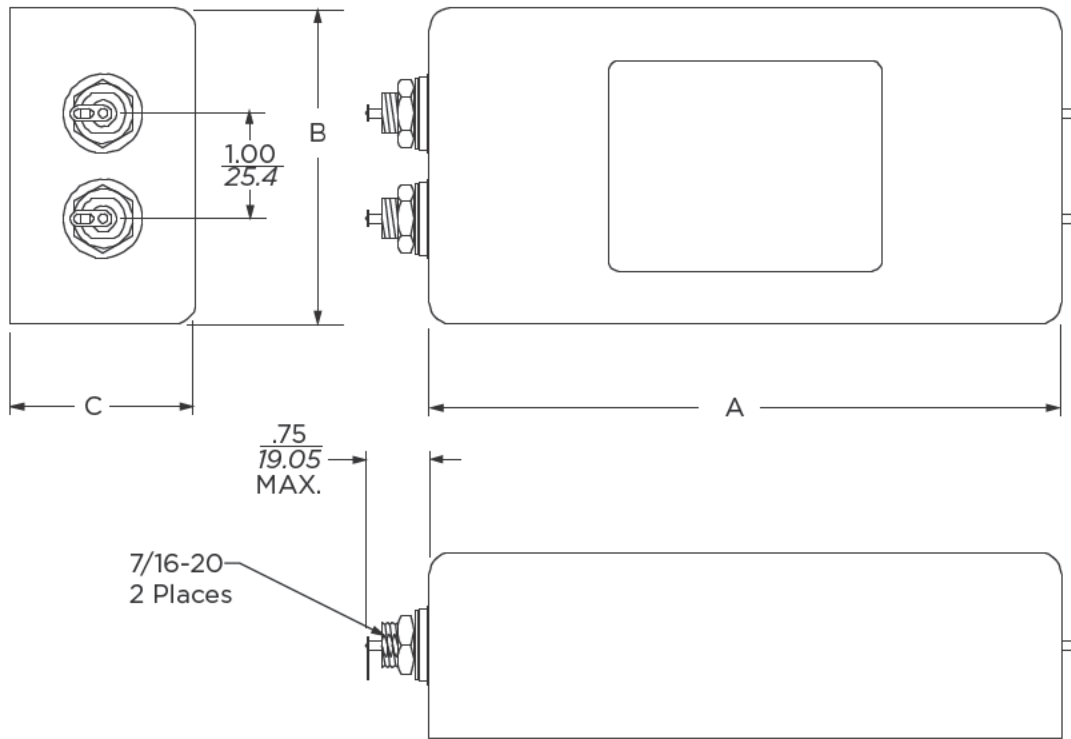


Example: SLA266-25-50-S =
25 Analog Fire Alarm Filters installed inside 50 space cabinet with surge arrestors

† NFL21593-3 inductive input version provided when used with surge arrestor
‡ NFL21595-5 inductive input version provided when used with surge arrestor

SLA Series – Cabinets and Signal/Data/Control Filters *(continued)*

SLA Series Filters



Model No.	Type	Impedance (Ohms)	Insertion Loss (dB)		Rated Current	Case Size			Filter Installs in Cabinet
			Pass Band	Stop Band		A	B	C	
1.25" Filters									
WFV3470	Telephone (KS20162)	300/600	5kHz	65 dB, 14kHz, 100 dB, 30kHz-10GHz	0.16A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLA215
WFV3544	Telephone (Standard)	300/600	3kHz	100 dB, 14kHz-10GHz	0.5A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLA214
WFV3561	Data (9.6kB)	300/600	28kHz	100 dB, 150kHz-10GHz	0.2A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLA253
WFV3562	Data (19.2kB)	50/100	56kHz	100 dB, 300kHz-10GHz	0.2A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLA254
WFV3563	Data (56kB)	50/100	168kHz	100 dB, 1MHz-10GHz	0.2A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLA255
ISDN64	Data (64k)	67.5/135	160kHz	100 dB, 1MHz-10GHz	0.1A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLAISDN
NF21590	Control (1A)	50/100	N/A	100 dB, 14kHz-10GHz	1.0A	5.25 <i>133.4</i>	2.50 <i>63.5</i>	1.25 <i>31.8</i>	SLA257
NFL21590*									
1.75" Filters									
WFV3564**	Fire Alarm (Analog)**	63/126	N/A	100 dB, 14kHz-10GHz	1.0A	6.00 <i>152.4</i>	3.00 <i>76.2</i>	1.75 <i>44.5</i>	SLA256
WFV3568	T1 Communication	50/100	4.8MHz	100 dB, 50MHz-10GHz	0.5A	6.00 <i>152.4</i>	3.00 <i>76.2</i>	1.75 <i>44.5</i>	SLA3602
WFV3575	Comm/ Intercom	22.5/95	3kHz	100 dB, 14kHz-10GHz	0.5A	6.00 <i>152.4</i>	3.00 <i>76.2</i>	1.75 <i>44.5</i>	SLA267
NF21593-3	Control (3A)	50/100	N/A	100 dB, 14kHz-10GHz	3.0A	6.00 <i>152.4</i>	3.00 <i>76.2</i>	1.75 <i>44.5</i>	SLA259
NFL21593-3*									
NF21593-5	Control (5A)	50/100	N/A	100 dB, 14kHz-10GHz	5.0A	6.00 <i>152.4</i>	3.00 <i>76.2</i>	1.75 <i>44.5</i>	SLA268
NFL21593-5*									

The above filters are used for AC or DC applications up to 125VAC/400VDC, EXCEPT WFV3575 which is 50 VAC/100 VDC.

* Inductive input versions, intended for use with surge arrester.

**Not intended for digital / addressable systems. Contact TE/Corcom for recommendation on a filter solution for these systems.

CDFS Series

CDFS Series

Features

- Sealed, constructed of suitably plated steel
- Removable input cover for terminal access and field wiring connection
- Threaded conduit fitting with two #20 AWG flexible leads provided on the load side
- Three knockouts on the input side
- Designed and tested per MIL-PRF-15733 (latest revision)

Filter Selection (*Part Numbers for Ordering*)

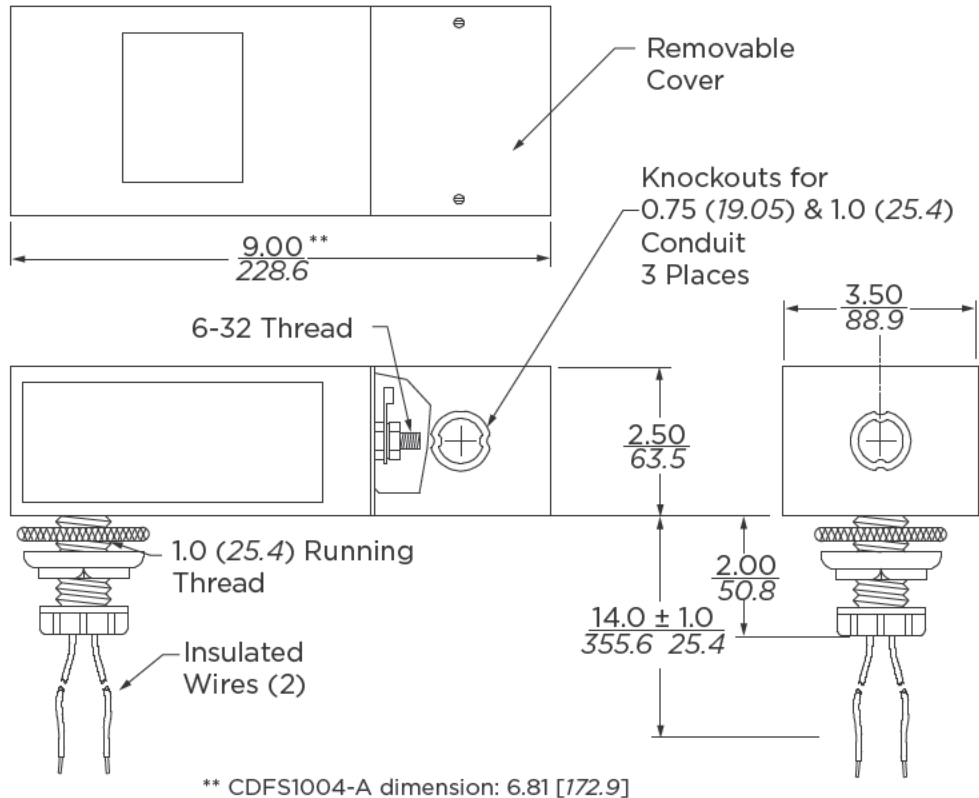
CDFS1038 — Telephone (KS20162)
CDFS1004 — Telephone (Standard)
CDFS1039 — Telephone (Special)
CDFS1030 — Data (9.6 KBAUD)
CDFS1040 — Data (19.2 KBAUD)
CDFS1041 — Data (56.0 KBAUD)
CDFS1028 — Fire Alarm
CDFS1029 — Comm/Intercom
CDFS1042 — Control (1.0 A)
CDFS1043 — Control (3.0 A)
CDFS1044 — Control (5.0 A)

Applicable Publications:

MIL-PRF-15733 — Filters, Radio Interference
MIL-STD-220 — Test Method of Insertion Loss



CDFS Series (continued)



Model No.*	Type	Impedance (Ohms)	Insertion Loss (dB)		Rated Current
			Pass Band	Stop Band	
CDFS1038	Telephone (KS20162)	300/600	5kHz	65 dB, 14kHz, 100 dB, 30kHz-10GHZ	0.16A
CDFS1004-A	Telephone (Standard)	300/600	3kHz	100 dB, 14kHz-10GHZ	0.5A
CDFS1039	Telephone (Special)	300/600	5kHz	80 dB, 14kHz-10GHZ	0.5A
CDFS1030	Data (9.6kB)	300/600	28kHz	100 dB, 200kHz-10GHZ	0.2A
CDFS1040	Data (19.2kB)	50/100	56kHz	100 dB, 300kHz-10GHZ	0.2A
CDFS1041	Data (56kB)	50/100	168kHz	100 dB, 1MHz-10GHZ	0.2A
CDFS1028	Fire Alarm† (Analog)	N/A	N/A	100 dB, 14kHz to 10GHZ	1.0A
CDFS1029	Comm/Intercom	22.5/45	3kHz	100 db, 14kHz-10GHZ	0.5A
CDFS1042	Control (1A)	N/A	N/A	100 db, 14kHz-10GHZ	1.0A
CDFS1043	Control (3A)	N/A	N/A	100 db, 14kHz-10GHZ	3.0A
CDFS1044	Control (5A)	N/A	N/A	100 db, 14kHz-10GHZ	5.0A

The above filters are used for AC or DC applications up to 125VAC/400VDC, EXCEPT CDFS1029 which is 50 VAC/100 VDC.

* Add "S" for surge arrestors. Ex: CDFS1038-S

† The CDFS1028 is intended for installations in analog applications only. Not designed for use in digital systems. Contact TE Connectivity for a recommendation on a filter solution for these systems.

MRI 2030 High Performance (100dB 100 kHz to 10 GHz)

MRI2030



Features

- UL 1283 listed
- Filter compartment sealed, constructed of suitably plated or stainless steel
- Removable input cover for terminal access and field wiring connection
- Threaded conduit fitting with flexible lead on the load side
- Knockouts provided on the input side
- Discharge bleeder resistor provided to reduce shock hazard

Electrical Characteristics

Rated Voltage:

277/480 VAC 50/60 Hz

Rated Current:

2 x 30A

Voltage Drop:

Less than 1% @ unity power factor.

Overload:

140% of rated current for 15 minutes.

Harmonic Distortion:

Less than 2% @ full rated current.

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283.

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302.

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E.

Temperature Rise:

Per MIL-PRF-15733 and UL1283.

R.F. Radiation:

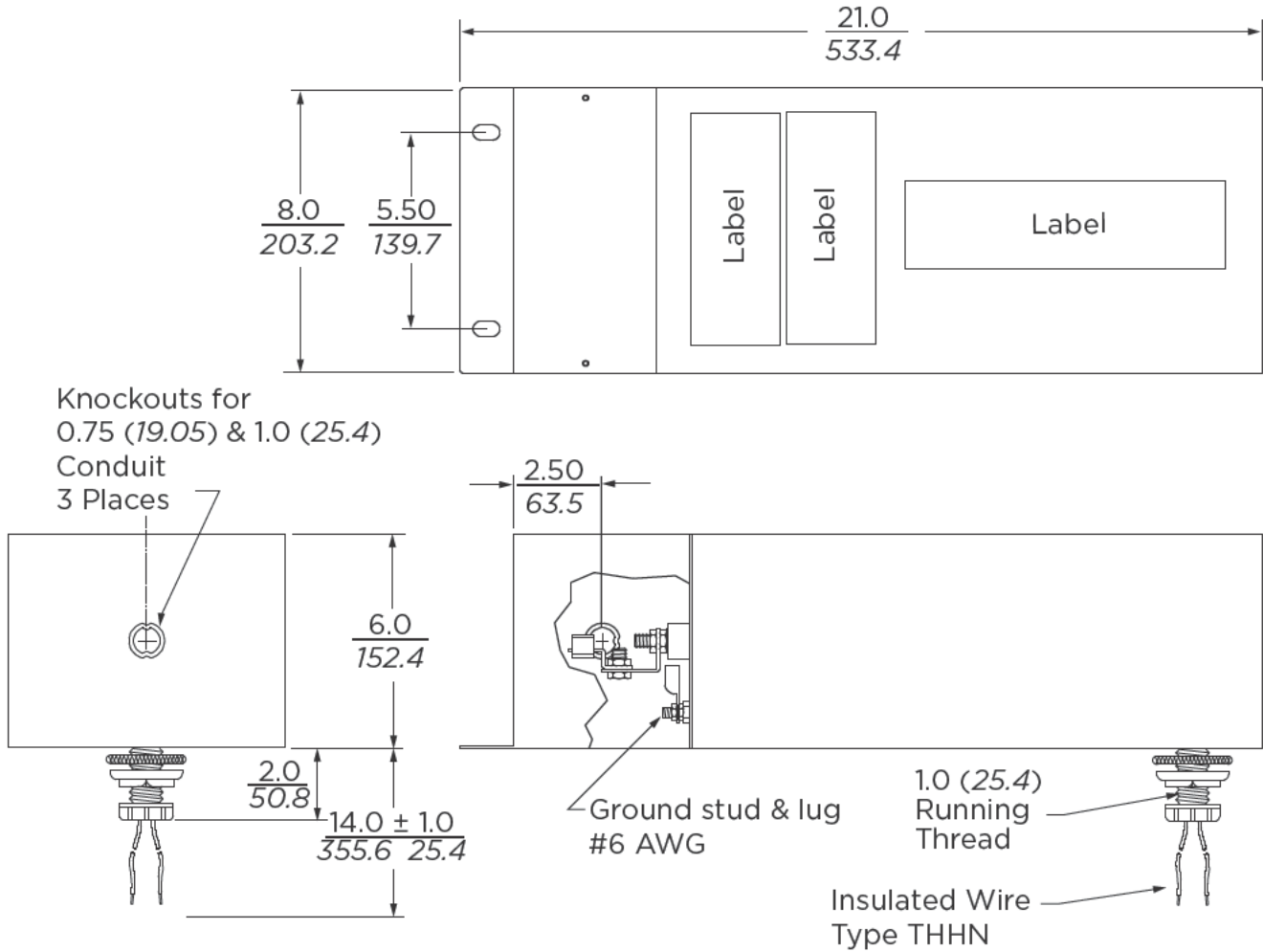
100 dB minimum shielding effectiveness.

Insertion Loss:

100 dB 100 kHz to 10GHz.



MRI 2030 High Performance (100dB 100 kHz to 10 GHz) *(continued)*



MRI 2030R (100 dB 5 MHz to 20 GHz)

MRI2030R



Features

- UL listed and CSA Certified
- Filter compartment sealed, constructed of suitably plated steel
- Competitively priced
- Removable input cover for terminal access and field wiring connection
- Threaded conduit fitting with flexible lead on the load side
- Knockouts provided on the input side
- Discharge bleeder resistor provided to reduce shock hazard

Electrical Characteristics

Rated Voltage:

277/480 VAC 50/60 Hz

Rated Current:

2 x 30A

Voltage Drop:

Less than 1% @ unity power factor.

Overload:

140% of rated current for 15 minutes.

Harmonic Distortion:

Less than 2% @ full rated current.

Dielectric Withstanding Voltage:

Per MIL-PRF-15733 and UL1283.

D.C. Insulation Resistance:

Per MIL-STD-202, Method 302.

Terminal Strength:

Per MIL-STD-202, Method 211, Condition E.

Temperature Rise:

Per MIL-PRF-15733 and UL1283

R.F. Radiation:

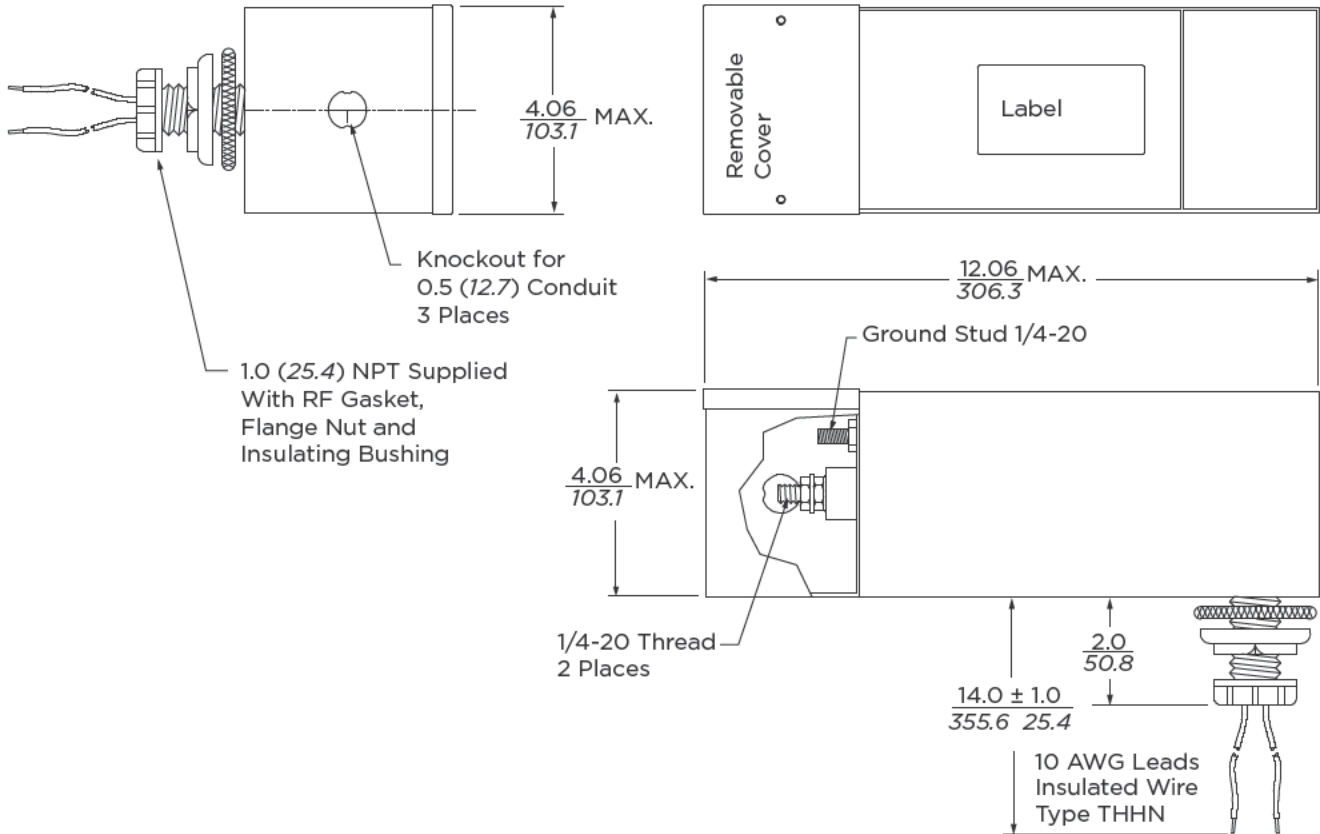
100 dB minimum shielding effectiveness.

Insertion Loss:


100 dB from 5 MHz - 20 GHz per MIL-STD-220.



MRI 2030R (100 dB 5 MHz to 20 GHz) *(continued)*



Engineering Notes



TE Connectivity Corcom Products Locations

**★ World Headquarters**

620 S. Butterfield Road
Mundelein, IL 60060
Phone: 847-680-7400
Fax: 847-680-8169

● West Coast

6700 Fallbrook Ave., Suite 287
West Hills, CA 91307
Phone: 818-226-4306
Fax: 818-704-1757

■ Europe

Finsinger Feld 1
D-85521 Ottobrunn, Germany
Phone: 49-89-6089-0
Fax: 49-89-6089-767

Further information available online at corcom.com

FOR MORE INFORMATION

te.com/industry/commercial-building-technology
corcom.com

TE Technical Support Center

Internet: te.com/help
USA: +1 (800) 522-6752
Canada: +1 (905) 475-6222
Mexico: +52 (0) 55-1106-0800
Latin/S. America: +54 (0) 11-4733-2200
Germany: +49 (0) 6251-133-1999
UK: +44 (0) 800-267666
France: +33 (0) 1-3420-8686
Netherlands: +31 (0) 73-6246-999
China: +86 (0) 400-820-6015

Part numbers in this brochure are RoHS Compliant*, unless marked otherwise.
*as defined www.te.com/leadfree

te.com
corcom.com

© 2011 Tyco Electronics Corporation, a TE Connectivity Ltd. company. All Rights Reserved.
1654986 CIS JG 06/2011

Corcom, TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks. Other logos, product and/or company names might be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

