

# **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 aquisition 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.

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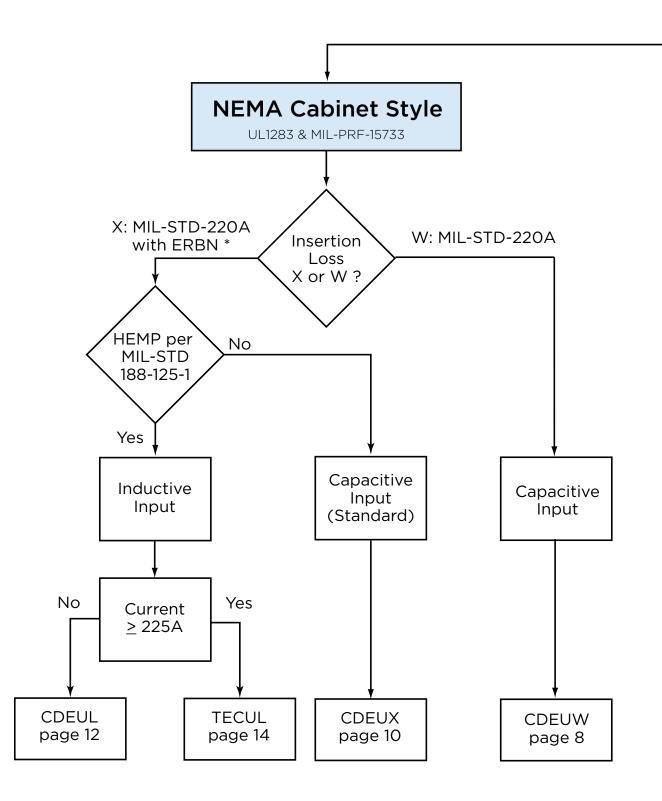
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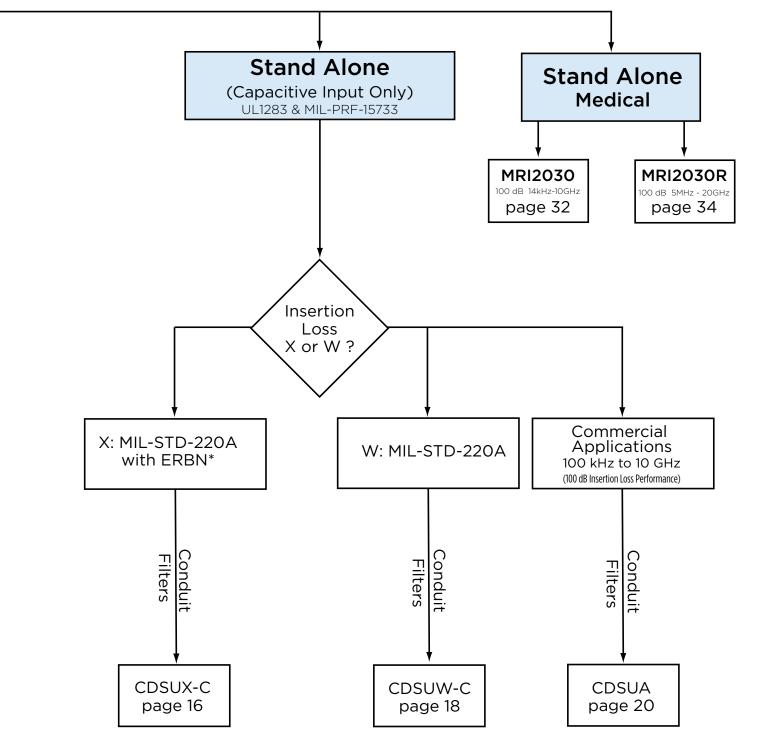
## **Corcom Facility EMI Filters Selection Guide**



\* ERBN = Extended Range Buffer Network



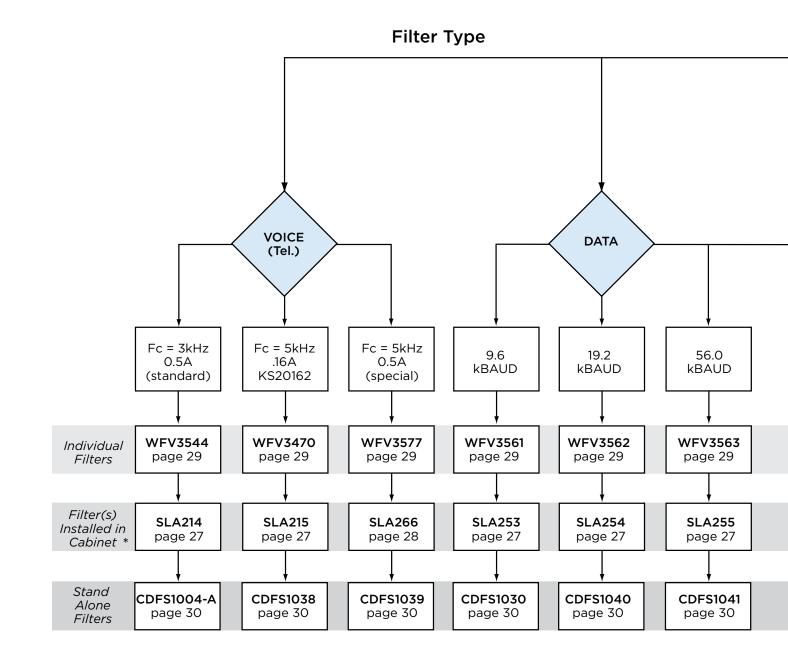
## Corcom Facility EMI Filters Selection Guide (continued)



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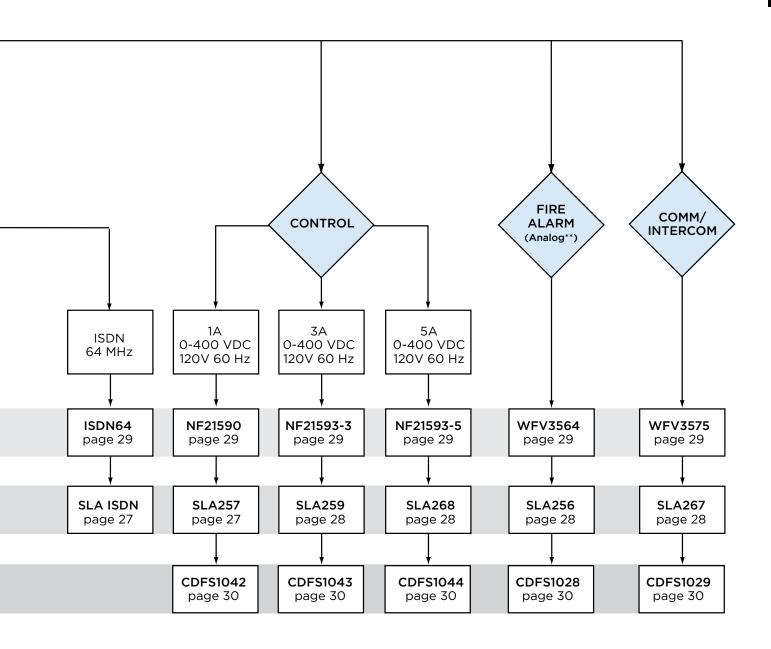
### Signal / Data / Control Filter Selection Guide



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.

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

## 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 request<sup>1</sup>. Filters are factory tested for:

- Insertion Loss
- Voltage Drop<sup>2</sup>
- Harmonic Distortion<sup>2</sup>
- Terminal Strength
- Temperature Rating<sup>2</sup>
- Dielectric Withstanding Voltage
- D.C. Insulation Resistance
- Current and Overload Rating<sup>2</sup>

Additional charges may apply
 Performed upon customer request only

# 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 overvoltage 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 arrestor 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

#### **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

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



4, 225A CDEUW, 120/280V filters in cabinet with surge arrestors and legs CDEUW30003086 =

#### 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

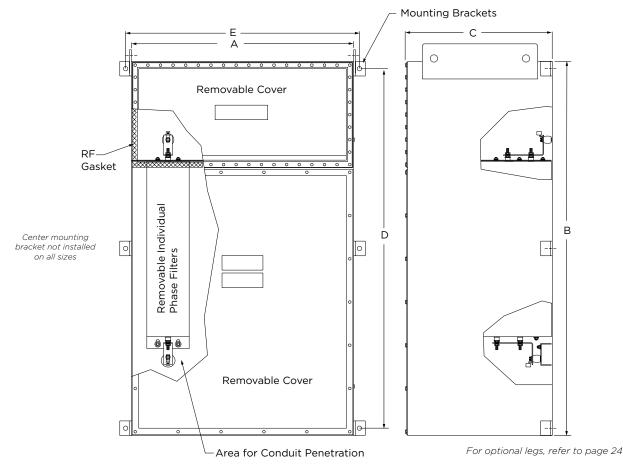
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## CDEUW Series (Capacitive Input) (continued)



Recommended torque for fasteners on removable cover: 25 in. lb.  $\pm$  3 in. lb.

# Filtered phases	5	D	imensio		Weight	
@ rated current	А	В	С	D	Е	(Pounds/KG)
2 @ 10A	14.0	30.0	6.0	22.0	16.0	95
2 @ 10A	355.6	762.0	152.4	558.8	406.4	43.1
3 @ 10A	20.0	30.0	6.0	22.0	22.0	100
5 @ 10A	508.0	762.0	152.4	558.8	558.8	45.4
4 @ 10A	26.0	30.0	6.0	22.0	28.0	120
	660.4	762.0	152.4	558.8	711.2	54.4
2 @ 30A	16.0	38.0	8.0	26.0	18.0	170
	406.4	965.2	203.2	660.4	457.2	77.1
3 @ 30A	23.0	38.0	8.0	26.0	25.0	240
5 @ 30A	584.2	965.2	203.2	660.4	635.0	108.9
4 @ 30A	30.0	38.0	8.0	26.0	32.0	300
4 @ 30A	762.0	965.2	203.2	660.4	812.8	136.1
2 @ 60 or 100A	16.0	44.0	10.0	32.0	18.0	240
2 @ 60 01 100A	406.4	1117.6	254.0	812.8	457.2	108.9
7 @ 60 or 100 A	23.0	44.0	10.0	32.0	25.0	310
3 @ 60 or 100A	584.2	1117.6	254.0	812.8	635.0	140.6
1 @ CO at 100 A	30.0	44.0	10.0	32.0	32.0	400
4 @ 60 or 100A	762.0	1117.6	254.0	812.8	812.8	181.4

# Filtered phases		D	imensio	nc		Weight
<ul> <li>a rated current</li> </ul>	A	В	Е	(Pounds/KG)		
<u> </u>	16.0	54.0	14.0	D 42.0	18.0	320
2 @ 150A	406.4	1371.6	355.6	1066.8	457.2	145.1
3 @ 150A	23.0	54.0	14.0	42.0	25.0	430
5 @ 150A	584.2	1371.6	355.6	1066.8	635.0	195.0
4 @ 150A	30.0	54.0	14.0	42.0	32.0	650
	762.0	1371.6	355.6	1066.8	812.8	294.8
2 @ 225A	16.0	54.0	14.0	42.0	18.0	380
2 @ 225A	406.4	1371.6	355.6	1066.8	457.2	172.4
3 @ 225A	23.0	54.0	14.0	42.0	25.0	520
5 @ 225A	584.2	1371.6	355.6	1066.8	635.0	235.9
4 @ 225A	30.0	54.0	14.0	42.0	32.0	700
4 @ 225A	762.0	1371.6	355.5	1066.8	812.8	317.5

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.

rection coil.

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

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### **CDEUX Series - Extended Range Buffer Networks (Capacitive Input)**

## **CDEUX** Series

#### **Filter Cabinet**

- Modified NEMA I, constructed of not less than #14gauge 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

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

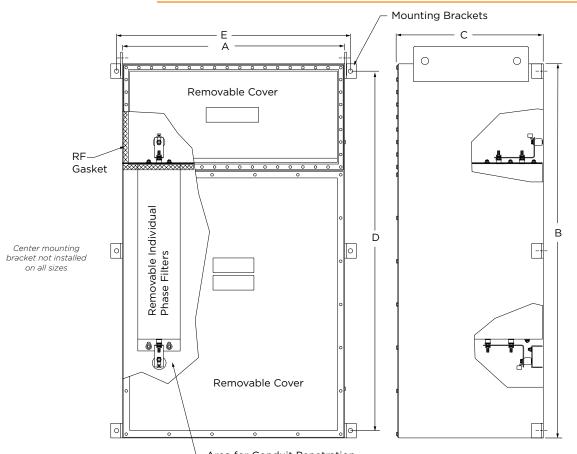


- Note 1: Surge Arrestor for A6/A4\* Models: V251BA60 Surge Arrestor for B6 Models: V481BA60
- Note 2: Current configuration listed as 5 digits with leading zeros

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

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#### **CDEUX Series - Extended Range Buffer Networks (Capacitive Input)**

Area for Conduit Penetration

For optional legs, refer to page 24

# Filtered phases	5	D	imensio	ns		Weight	# Filtered phases	5	D	mensio	ns		Weight
@ rated current	А	В	С	D	Е	(Pounds/KG)	@ rated current	А	В	С	D	Е	(Pounds/KG)
2 @ 10A	14.0	30.0	6.0	22.0	16.0	95	2 @ 225A	16.0	54.0	14.0	42.0	18.0	380
2 @ 10A	355.6	762.0	152.4	558.8	406.4	43.1	2 @ 225A	406.4	1371.6	355.6	1066.8	457.2	172.4
3 @ 10A	20.0	30.0	6.0	22.0	22.0	100	3 @ 225A	23.0	54.0	14.0	42.0	25.0	520
5 @ 10A	508.0	762.0	152.4	558.8	558.8	45.4	5 @ 225A	584.2	1371.6	355.6	1066.8	635.0	235.9
4 @ 10A	26.0	30.0	6.0	22.0	28.0	120	4 @ 225A	30.0	54.0	14.0	42.0	32.0	700
- @ 10A	660.4	762.0	152.4	558.8	711.2	54.4	@ 225A	762.0	1371.6	355.5	1066.8	812.8	317.5
2 @ 30A	16.0	38.0	8.0	26.0	18.0	170	2 @ 400A	22.0	64.0	26.0	61.5	24.0	800
2 @ 307	406.4	965.2	203.2	660.4	457.2	77.1	2 @ 400A	558.8	1625.6	660.4	1562.1	609.6	362.9
3 @ 30A	23.0	38.0	8.0	26.0	25.0	240	3 @ 400A	30.0	64.0	26.0	61.5	32.0	1100
0 @ 00A	584.2	965.2	203.2	660.4	635.0	108.9	5 @ <del>4</del> 00A	762.0	1625.6	660.4	1562.1	812.8	498.9
4 @ 30A	30.0	38.0	8.0	26.0	32.0	300	4 @ 400A	38.0	64.0	26.0	61.5	40.0	1400
- 4 @ 30A	762.0	965.2	203.2	660.4	812.8	136.1		965.2	1625.6	660.4	1562.1	1016.0	635.0
2 @ 60 or 100A	16.0	44.0	10.0	32.0	18.0	240	2 @ 800A	38.0	70.0	26.0	67.5	40.0	1400
2 @ 00 0/ 100A	406.4	1117.6	254.0	812.8	457.2	108.9	2 @ 0007	965.2	1778.0	660.4	1714.5	1016.0	635.0
3 @ 60 or 100A	23.0	44.0	10.0	32.0	25.0	310	3 @ 800A	56.0	70.0	26.0	67.5	58.0	2100
5 @ 00 0/ 100A	584.2	1117.6	254.0	812.8	635.0	140.6	5 @ 000A	1422.4	1778.0	660.4	1714.5	1473.2	952.5
4 @ 60 or 100A	30.0	44.0	10.0	32.0	32.0	400	4 @ 800A	72.0	70.0	26.0	67.5	74.0	2600
- @ 00 0/ 100A	762.0	1117.6	254.0	812.8	812.8	181.4		1828.8	1778.0	660.4	1714.5	1879.6	1179.3
2 @ 150A	16.0	54.0	14.0	42.0	18.0	320	2 @ 1000 or 1200A	56.0	70.0	26.0	67.5	58.0	2000
2 @ 150A	406.4	1371.6	355.6	1066.8	457.2	145.1	2 @ 1000 0/ 1200/1	1422.4	1778.0	660.4	1714.5	1473.2	907.2
3 @ 150A	23.0	54.0	14.0	42.0	25.0	430	3 @ 1000 or 1200A	82.0	70.0	26.0	67.5	84.0	3000
5 @ /50A	584.2	1371.6	355.6	1066.8	635.0	195.0	5 @ 1000 0/ 1200A	2082.8	1778.0	660.4	1714.5	2133.6	1360.8
4 @ 150A	30.0	54.0	14.0	42.0	32.0	650	4 @ 1000 or 1200A	106.0	70.0	26.0	67.5	108.0	3800
4 @ 150A	762.0	1371.6	355.6	1066.8	812.8	294.8	4 @ 1000 0F 1200A	2692.4	1778.0	660.4	1714.5	2743.2	2 1723.6

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

 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.

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### **CDEUL Series - Extended Range Buffer Networks (Inductive Input)**

## **CDEUL Series**

#### **Filter Cabinet**

- Modified NEMA I, constructed of not less than #14gauge 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<sup>‡</sup>

#### **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

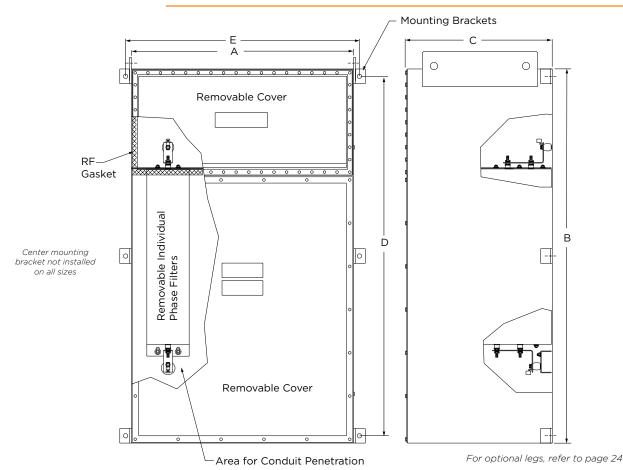
*‡ Intended for HEMP applications ≤*150*A. For filters rated ≥*225*A refer to the new TECUL Series on page 14.* 



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

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USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400



#### CDEUL Series - ERBN (Inductive Input) (continued)

Recommended torque for fasteners on removable cover: 25 in. lb. + 3 in. lb. # Filtered phases Weight # Filtered phases Weight Dimensions Dimensions в @ rated current C D F (Pounds/KG) @ rated current B C D F (Pounds/KG) Δ 14.0 30.0 22.0 16.0 95 16.0 54.0 14.0 42.0 18.0 380 6.0 2 @ 10A 2 @ 225A 558.8 406.4 355.6 762.0 152.4 43.1 406.4 1371.6 355.6 1066.8 457.2 172.4 30.0 100 20.0 6.0 22.0 22.0 23.0 54.0 14.0 42.0 25.0 520 3 @ 10A 3 @ 225A 762.0 45.4 584.2 1371.6 235.9 508.0 152.4 558.8 558.8 355.6 1066.8 635.0 26.0 30.0 6.0 22.0 28.0 120 30.0 54.0 14.0 42.0 32.0 700 4 @ 10A 4 @ 225A 660.4 762.0 558.8 711.2 54.4 762.0 1371.6 355.5 1066.8 812.8 317.5 152.4 16.0 38.0 8.0 26.0 18.0 170 22.0 64.0 26.0 61.5 24.0 800 2 @ 30A 2 @ 400A 406.4 965.2 203.2 660.4 457.2 77.1 558.8 1625.6 660.4 1562.1 609.6 362.9 25.0 23.0 38.0 26.0 240 30.0 64.0 26.0 61.5 1100 8.0 32.0 3 @ 30A 3 @ 400A 584.2 965.2 203.2 660.4 635.0 108.9 762.0 1625.6 660.4 1562.1 812.8 498.9 30.0 38.0 38.0 61.5 40.0 1400 8.0 26.0 32.0 300 64.0 26.0 4 @ 30A 4 @ 400A 762.0 965.2 203.2 660.4 812.8 136.1 965*.*2 1625.6 660.4 1562.1 1016.0 635.0 16.0 44.0 10.0 32.0 18.0 240 38.0 70.0 26.0 67.5 40.0 1400 2 @ 60 or 100A 2 @ 800A 1117.6 660.4 406.4 812.8 457.2 108.9 1778.0 1714.5 1016.0 635.0 254.0 965.2 23.0 44.0 10.0 32.0 25.0 310 56.0 70.0 26.0 67.5 58.0 2100 3 @ 60 or 100A 3 @ 800A 1117.6 140.6 1422.4 1778.0 660.4 1714.5 1473.2 952.5 584.2 254.0 812.8 635.0 30.0 44.0 10.0 32.0 32.0 400 72.0 70.0 26.0 67.5 74.0 2600 4 @ 60 or 100A 4 @ 800A 762.0 1117.6 254.0 812.8 812.8 181.4 1828.8 1778.0 660.4 1714.5 1879.6 1179.3 70.0 67.5 58.0 2000 54.0 14.0 56.0 26.0 16.0 42.0 18.0 320 2 @ 150A 2 @ 1000 or 1200A 1066.8 406.4 1371.6 355.6 457.2 145.1 1422.4 1778.0 660.4 1714.5 1473.2 907.2 23.0 54.0 42.0 25.0 430 82.0 70.0 26.0 67.5 84.0 3000 14.0 3 @ 150A 3 @ 1000 or 1200A 2082.8 1778.0 660.4 2133.6 1714.5 1360.8 584.2 1371.6 355.6 1066.8 635.0 195.0 30.0 54.0 14.0 42.0 32.0 650 106.0 70.0 26.0 67.5 108.0 3800 4 @ 150A 4 @ 1000 or 1200A 2692.4 1778.0 660.4 1714.5 2743.2 1723.6 762.0 1371.6 355.6 1066.8 812.8 294.8

 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.

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400

UL Recognized Filters

#### **TECUL Series - Extended Range Buffer Networks (Inductive Input)**

# **TECUL Series**

#### **Filter Cabinet**

- Modified NEMA I, 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<sup>‡</sup>

#### **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

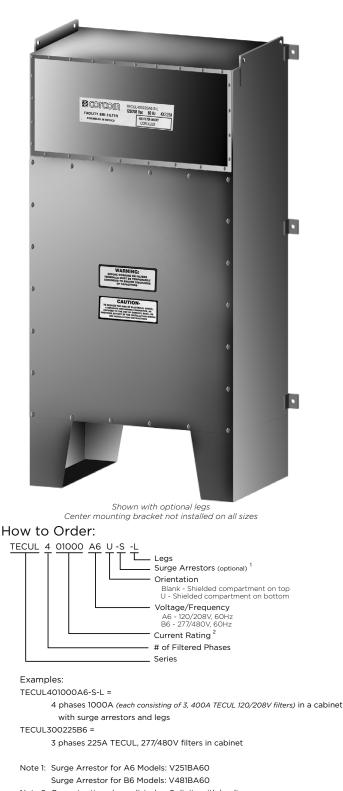
Insertion Loss:

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

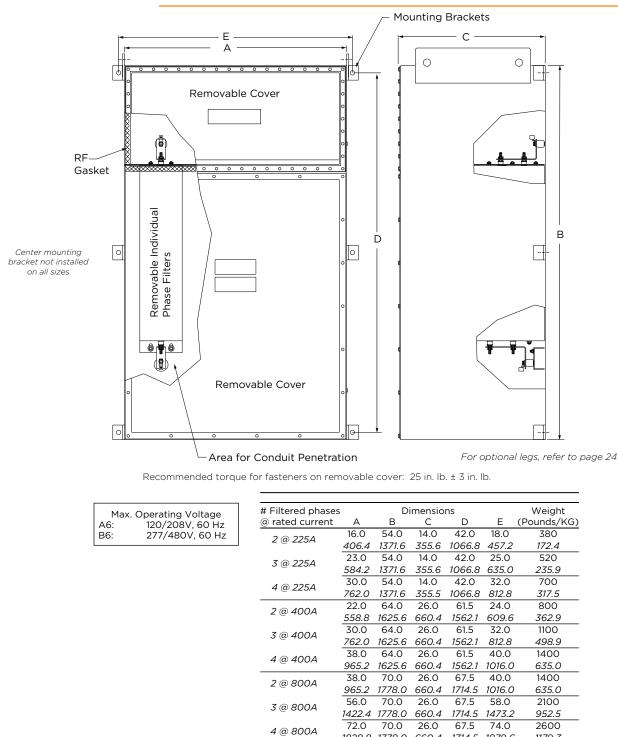
#### **Applicable Publications:**

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

<sup>‡</sup> Intended for HEMP applications ≥225A. For filters rated ≤150A refer to the CDEUL Series on page 12.



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



#### TECUL Series - ERBN (Inductive Input) (continued)

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400

1828.8

56.0

82.0

106.0

2 @ 1000 or 1200A

3 @ 1000 or 1200A

4 @ 1000 or 1200A

1778.0

70.0

70.0

70.0

2692.4 1778.0 660.4

1422.4 1778.0

2082.8 1778.0

660.4

26.0

660.4

26.0

6604

26.0

1714.5

67.5

1714.5

67.5

1714.5

67.5

1879.6

58.0

1473.2

84.0

21336

108.0

1714.5 2743.2

1179.3

2000

907.2

3000

13608

3800

1723.6

### **CDSUX-C Series - Extended Range Buffer Networks**

## **CDSUX-C** Series

#### 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



USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400

Examples: CDSUX2030A6-C-S, CDSUX1010B6-C Surge Arrestor for A6/A4\* Models: V251BA60

Current configuration listed as 3 digits with leading zeros

Surge Arrestor for B6 Models: V481BA60

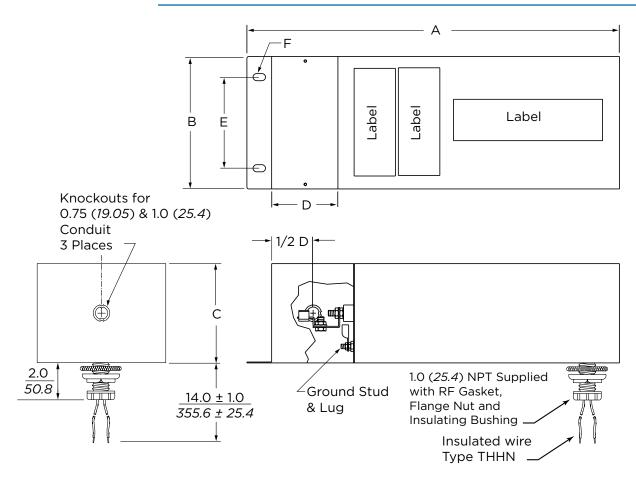
Note 1:

Note 2

B6 - 277/480V, 60Hz

A4 - 120/208V, 400Hz Current Rating<sup>2</sup> - # of Filters Series





CDSUX Rated Current			Dimensions	_ Wire Gauge	Approx. Weight				
	Current	A ±.063 [1.6]	B ±.063 [1.6]	C ±.063 [1.6]	D	Е	F	(AWG/mm <sup>2</sup> )	(Pounds/KG)
1010**-C	10A	21.0	4.0	5.0	5.0	3.0	.31 x .50	10	15
1010 -C	IUA	533.4	101.6	127.0	127.0	76.2	7.87 x 12.7	5.26	6.80
2010**-C	2 @ 10A	21.0	8.0	5.0	5.0	5.5	.43 x .75	10	30
2010 -C	2 @ 10A	533.4	203.2	127.0	127.0	139.7	10.9 x 19.1	5.26	13.6
1030**-C	30A	26.0	6.0	6.0	5.0	4.0	.31 x .50	6	30
1030 -0	304	660.4	152.4	152.4	127.0	101.6	7.87 x 12.7	13.20	13.6
2030**-C	2@30A	26.0	12.0	6.0	5.0	9.0	.43 x .75	6	60
2030 -0	2 @ 30A	660.4	304.8	152.4	127.0	228.6	10.9 x 19.1	13.20	27.2
1060**-C	60A	32.0	8.0	6.0	6.0	5.5	.43 x .75	6	60
1000 -C	OUA	812.8	203.2	152.4	152.4	139.7	10.9 x 19.1	13.20	27.2
1100**-C	100A	34.0	8.0	6.0	8.0	5.5	.43 X .75	2	70
100 -0	IUUA	863.6	203.2	152.4	203.2	139.7	10.9 x 19.1	33.6	31.8
1150**-C	150A	41.0	10.0	6.0	9.0	9.0	.43 X .75	0	90
1150 -C	IJUA	1041.4	254.0	152.4	228.6	228.6	10.9 x 19.1	53.5	40.8
1225**-C	225A	41.0	10.0	6.0	9.0	9.0	.43 X .75	250 MCM	120
1223 -0	ZZJA	1041.4	254.0	152.4	228.6	228.6	10.9 x 19.1	126.0	54.4

\*400Hz filters available upon request. Will require external power factor correction coil. Please contact TE Connectivity Application Engineering 1-847-573-6517. Max. Operating VoltageA6:120/208V, 60 HzB6:277/480V, 60 HzA4\*:120/208V, 400 Hz

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400 **CDSUW-C Series** 

# **CDSUW-C Series**

#### 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:

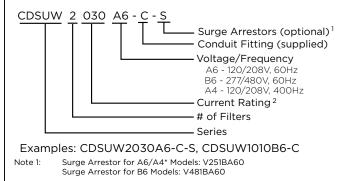
100 dB from 14 kHz - 10 GHz per MIL-STD-220A, under load condition

#### **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:

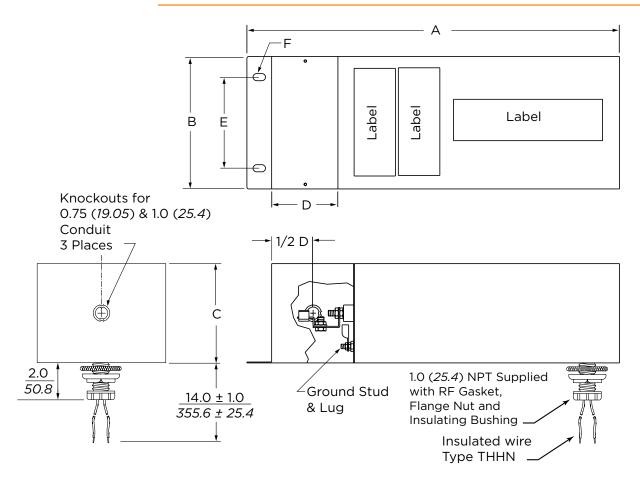


Note 2: Current configuration listed as 3 digits with leading zeros

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400

## CDSUW-C Series (continued)



CDSUW Rated			[	Dimensions	_ Wire Gauge	Approx. Weight			
CD30W	Current	2000 [10] 2000 [10] - 2000 [10]		F	(AWG/mm²)	(Pounds/KG)			
1010**-C	10A	21.0	4.0	5.0	5.0	3.0	.31 x .50	10	15
1010 -C	IUA	533.4	101.6	127.0	127.0	76.2	7.87 x 12.7	5.26	6.80
2010**-C	2 @ 10A	21.0	8.0	5.0	5.0	5.5	.43 x .75	10	30
2010 -C	2 @ 10A	533.4	203.2	127.0	127.0	139.7	10.9 x 19.1	5.26	13.6
1030**-C	30A	26.0	6.0	6.0	5.0	4.0	.31 x .50	6	30
1030 -0	30A	660.4	152.4	152.4	127.0	101.6	7.87 x 12.7	13.20	13.6
2030**-C	2 @ 30A	26.0	12.0	6.0	5.0	9.0	.43 x .75	6	60
2030 -C	2 @ 30A	660.4	304.8	152.4	127.0	228.6	10.9 x 19.1	13.20	27.2
1060**-C	60A	32.0	8.0	6.0	6.0	5.5	.43 x .75	6	60
1000 -C	UUA	812.8	203.2	152.4	152.4	139.7	10.9 x 19.1	13.20	27.2
1100**-C	100A	34.0	8.0	6.0	8.0	5.5	.43 X .75	2	70
100 -0	IUUA	863.6	203.2	152.4	203.2	139.7	10.9 x 19.1	33.6	31.8
1150**-C	150A	41.0	10.0	6.0	9.0	9.0	.43 X .75	0	90
1150 -C	IJUA	1041.4	254.0	152.4	228.6	228.6	10.9 x 19.1	53.5	40.8
1225**-C	225A	41.0	10.0	6.0	9.0	9.0	.43 X .75	250 MCM	120
1223 -0	ZZJA	1041.4	254.0	152.4	228.6	228.6	10.9 x 19.1	126.0	54.4

\*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

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400 **1**9

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**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: Line to Line:

480 VAC (max)

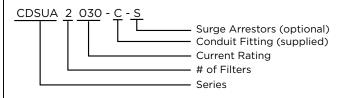
277 VAC (max)

#### **Applicable Publications:**

UL1283 — UL standard for EMI Filters

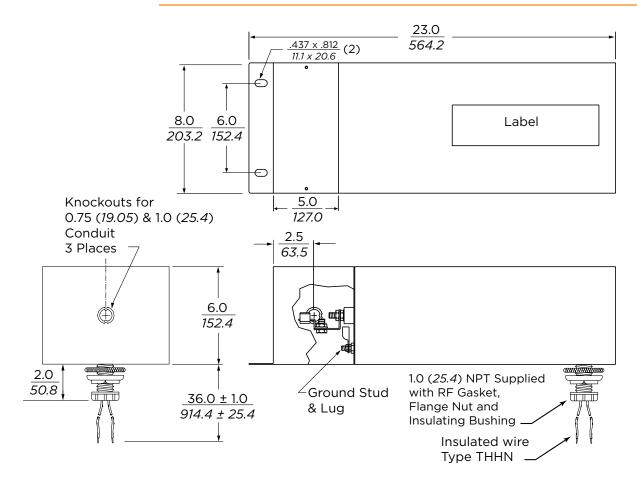


How to Order:



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

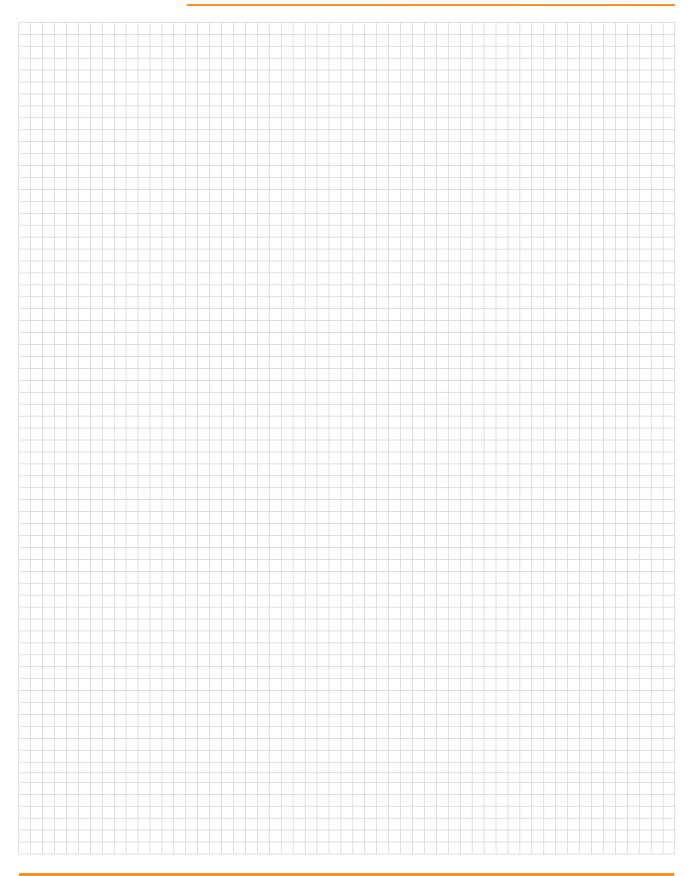
USA Cust. Svc.:

Corcom Prods:

te.com

corcom.com

## **Engineering Notes**



#### **Power Factor Correction Coils (Three Phase)**

### Features

- Used to cancel part of the undesirable capacitivereactive 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:

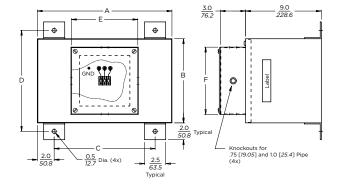
Case temperature rise shall not exceed 35  $^\circ\text{C}$  when operating at an ambient temperature of 25  $^\circ\text{C}$ 

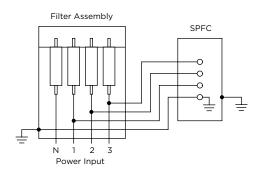
#### **Materials**

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





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

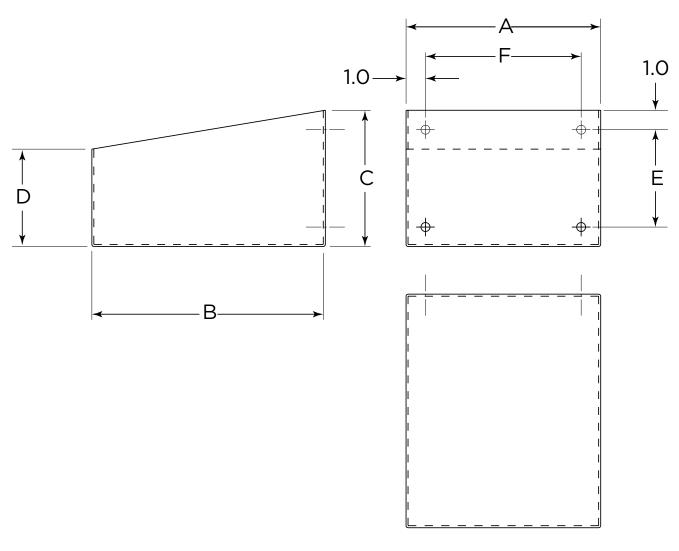
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**NEMA Cabinet Legs** 

## **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)

<u>TE part #</u>	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 continously 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	Α	В	С	D	Е	F
LU10	CDEUL, CDEUX & CDEUW 10A	5.00	12.00	6.00	4.00	4.00	3.00
		127.00	304.80	152.40	101.60	101.60	76.20
LU30	CDEUL, CDEUX & CDEUW 30A	6.75	12.00	7.00	5.00	5.00	4.75
		171.45	304.80	177.80	127.00	127.00	120.65
LU100	CDEUL, CDEUX & CDEUW 60A & 100A	<b>8.75</b> 222.25	<b>12.00</b> 304.80	<b>7.00</b> 177.80	<b>5.00</b> 127.00	<b>5.00</b> 127.00	<b>6.75</b> 171.45
		<u> </u>	<u> </u>	7.00	<u>5.00</u>	<u>5.00</u>	<u>9.50</u>
LU150	CDEUL, CDEUX & CDEUW 150A	292.10	304.80	177.80	<b>5.00</b> 127.00	127.00	241.30
		12.75	12.00	7.00	5.00	5.00	10.75
LU225	CDEUL, CDEUX & CDEUW 225A	323.85	304.80	177.80	127.00	127.00	273.05
LU400	CDEUL, CDEUX & CDEUW 400A	24.75	12.00	7.00	5.00	5.00	22.75
L0400		628.65	304.80	177.80	127.00	127.00	577.85
LU800	CDEUL, CDEUX & CDEUW 600A, 800A &	24.75	12.00	12.00	10.00	10.00	22.75
20000	1200A *	628.65	304.80	304.80	254.00	254.00	577.85
LU1200C	CDEUL, CDEUX & CDEUW 1200A *	24.75	12.00	12.00	12.00	10.00	22.75
		628.65	304.80	304.80	304.80	254.00	577.85
LF10	CDEFX & CDEFW 5A & 10A	4.00	12.00	5.00	3.00	3.00	2.00
		101.60	304.80	127.00	76.20	76.20	50.80
LF50	CDEFX & CDEFW 25A & 50A	5.75	12.00	5.00	3.00	3.00	3.75
		146.05	304.80	127.00	76.20	76.20	95.25
LF100	CDEFX & CDEFW 100A	<b>8.50</b> 215.90	<b>12.00</b> 304.80	<b>6.00</b> 152.40	<b>4.00</b> 101.60	<b>4.00</b> 101.60	<b>6.50</b> 165.10
		<u> </u>	<u> </u>	<u>7.00</u>	<u> </u>	<u>5.00</u>	<u>7.25</u>
LF150	CDEFX & CDEFW 150A	<b>3.23</b> 234.95	304.80	177.80	127.00	127.00	184.15
		<u> </u>	<u>12.00</u>	7.00	<u></u> 5.00	5.00	<u> </u>
LF200	CDEFX & CDEFW 200A	279.40	304.80	177.80	127.00	127.00	228.60
		19.00	12.00	7.00	5.00	5.00	17.00
LF300	CDEFX & CDEFW 300A	482.60	304.80	177.80	127.00	127.00	431.80
LF400	CDEFX & CDEFW 400A	23.00	12.00	7.00	5.00	5.00	21.00
LF400		584.20	304.80	177.80	127.00	127.00	533.40
LF600	CDEFX & CDEFW 600A	18.75	12.00	12.00	10.00	10.00	16.75
		476.25		304.80	254.00	254.00	425.45
LF800	CDEFX & CDEFW 800A & 1000A **	22.75	12.00	12.00	10.00	10.00	20.75
		577.85		304.80	254.00		527.05
LF1000C	CDEFX & CDEFW 1000A **	22.75	12.00	12.00	12.00	10.00	20.75
		577.85	304.80	304.80	304.80	254.00	527.05

\* 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)

 $\label{eq:wfv3470} &- \mbox{Telephone} \ (KS20162) \\ WFV3544 - \mbox{Telephone} \ (Standard) \\ WFV3577 - \mbox{Telephone} \ (Special) \\ WFV3561 - \mbox{Data} \ (9.6 \ KBAUD) \\ WFV3562 - \mbox{Data} \ (19.2 \ KBAUD) \\ WFV3563 - \mbox{Data} \ (56.0 \ KBAUD) \\ WFV3564 - \mbox{Fire} \ Alarm \\ WFV3575 - \mbox{Intercom} \\ NF21590 - \mbox{Control} \ (1.0 \ A) \\ NF21593-3 - \mbox{Control} \ (3.0 \ A) \\ NF21593-5 - \mbox{Control} \ (5.0 \ A) \\ \end{array}$ 

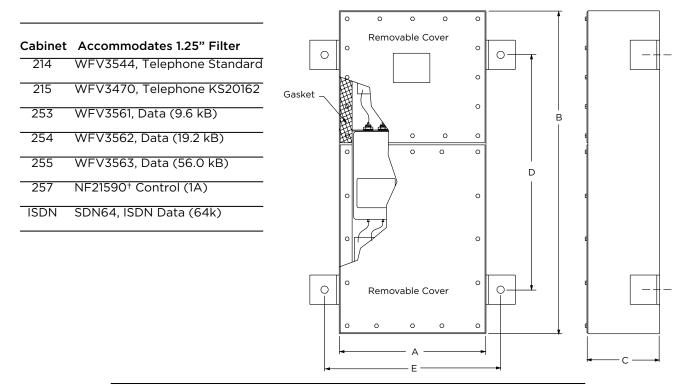
#### **Applicable Publications:**

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



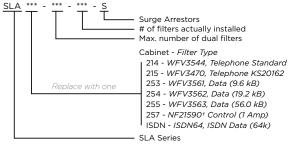
### SLA Series — Cabinets and Signal/Data/Control Filters (continued)

### SLA Series Cabinets for use with 1.25" Filters



Enclosure	Number of		[	Dimension	s		Approx. Weight
w/Filters	Dual Filters	A ±.125 [3.18	B ±.25 [3.18]	C ±.25 [6.4]	D ±.06 [1.5]	E ±.06 [1.5]	(Pounds/KG)
SLA***-4	4	8.0	20.0	5.0	14.0	10.0	18
JLA -4	4	203.2	508.0	127.0	355.6	254.0	8.16
SLA***-10	10	18.0	20.0	5.0	14.0	20.0	45
JLA -IU	10	457.2	508.0	127.0	355.6	508.0	20.4
SLA***-25	25	18.0	24.0	9.5	18.0	20.0	90
JLA -2J	25	457.2	609.6	241.3	457.2	508.0	40.8
SLA***-50	50	32.0	26.0	9.5	20.0	34.0	115
JLA -JU	30	812.8	660.4	241.3	508.0	863.6	52.2
SLA***-100	100	42.0	28.0	12.75	22.0	44.0	285
3LA -100	100	1066.8	711.2	323.8	558.8	1117.6	129.3
SLA***-150	150	32.0	50.0	15.5	44.0	34.0	475
3LA -130	50 150	823.8	1270.0	393.7	1117.6	863.6	215.5
SLA***-200	_A***-200 200	34.0	64.0	15.5	61.5	36.0	650
JLA -200	200	863.6	1625.6	393.7	1562.1	914.4	294.8

#### How to Order:



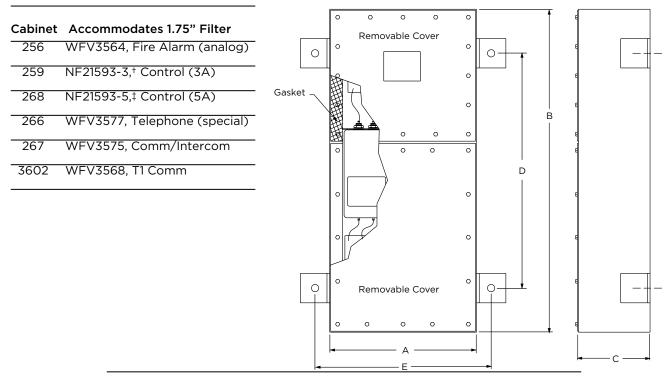
Example: SLA214-100-75-S =

75 Telelphone Filters installed inside 100 space cabinet with surge arrestors

<sup>†</sup> NFL21590 inductive input version provided when used with surge arrestor

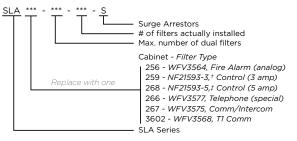
#### SLA Series — Cabinets and Signal/Data/Control Filters (continued)

#### SLA Series Cabinets for use with 1.75" Filters



Enclosure	Number of		[	Dimension	s		Approx. Weight
w/Filters	Dual Filters	A ±.125 [3.18]	B ±.125 [3.18]	C ±.25 [6.4]	D ±.06 [1.5]	E ±.06 [1.5]	(Pounds/KG)
SLA***-4	4	10.0	22.0	6.0	12.0	12.0	20
JLA -4	4	254.0	558.8	152.4	304.8	304.8	9.08
SLA***-10	10	20.0	22.0	6.0	22.0	22.0	50
JLA -IU	10	508.0	558.8	152.4	558.8	558.8	22.7
SLA***-25	25	20.0	28.0	12.0	22.0	22.0	140
3LA -23	25	508.0	711.2	304.8	558.8	558.8	63.5
SLA***-50	50	38.0	28.0	12.0	22.0	40.0	250
3LA -50	50	965.2	711.2	304.8	558.8	1016.0	113.4
SLA***-100	100	54.0	30.0	15.0	24.0	56.0	450
3LA -100	100	1371.6	762.0	381.0	609.6	1422.4	204.2
SLA***-150	150	36.0	64.0	18.0	56.0	38.0	670
5LA -150	150	914.4	1625.6	457.2	1422.4	965.2	303.9
SLA***-200	200	42.0	72.0	22.0	64.0	44.0	1000
3LA -200	200	1066.8	1828.8	558.8	1625.6	1117.6	453.6

#### How to Order:



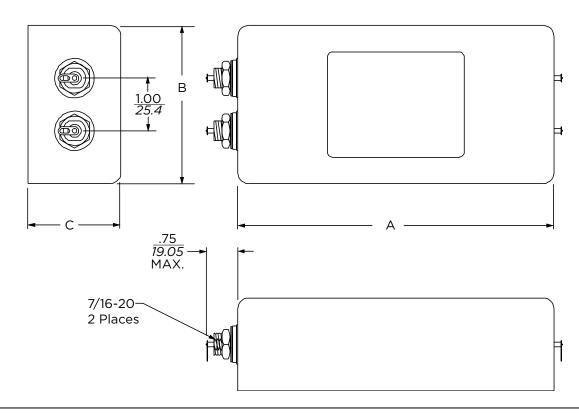
Example: SLA266-25-50-S =

25 Analog Fire Alarm Filters installed inside 50 space cabinet with surge arrestors

<sup>+</sup> NFL21593-3 inductive input version provided when used with surge arrestor <sup>‡</sup> 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.	Туре	Impedance (Ohms)	Insert Pass Band	ion Loss (dB) Stop Band	Current	<u>Rated</u> A	В	<u>Case Si</u> ze C	Filte Installs in Cabinet
				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 63.5	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 63.5	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 63.5	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 63.5	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 63.5	1.25 <i>31.</i> 8	SLA255
ISDN64	Data (64k)	67.5/135	160kHz	100 dB, 1MHz to 10GHz	0.1A	5.25 <i>133.4</i>	2.50 63.5	1.25 <i>31.</i> 8	SLAISDN
NF21590 NFL21590*	Control (1A)	50/100	N/A	100 dB, 14kHz-10GHz	1.0A	5.25 <i>133.4</i>	2.50 63.5	1.25 <i>31.</i> 8	SLA257
				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 76.2	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 NFL21593-3*	Control (3A)	50/100	N/A	100 dB, 14kHz-10GHz	3.0A	6.00 <i>152.4</i>	3.00 76.2	1.75 <i>44.5</i>	SLA259
NF21593-5 NFL21593-5*	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

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 arrestor.

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

Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400

**TE Connectivity** 

**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)

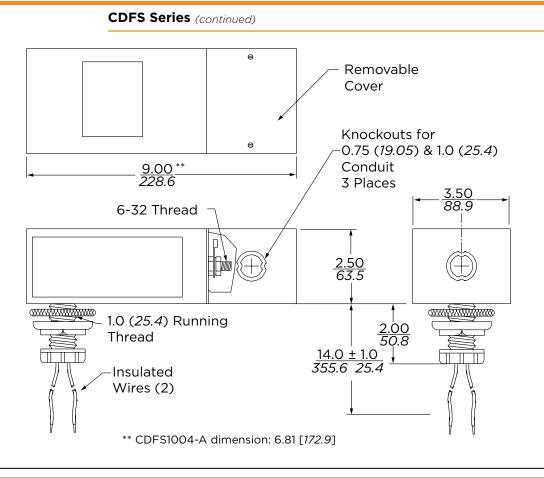
#### Filter Selection (Part Numbers for Ordering)

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





Model Rated	Туре	Impedance	Inserti	ion Loss (dB)	
No.*		(Ohms)	Pass Band	Stop Band	Current
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	300/600	28kHz	100 dB,	0.2A
	(9.6kB)			200kHz-10GHz	
CDFS1040	Data (19.2kB)	50/100	56kHz	100 dB, 300kHz-10GHz	0.2A
CDFS1041	Data	50/100	168kHz	100 dB,	0.2A
	(56kB)			1MHz-10GHz	
CDFS1028	Fire Alarm <sup>†</sup> (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

<sup>+</sup> The CDFS1028 is intended for installations in analog applications only. Not designed for use in digital systems.

USA Cust. Svc.: 1-800-468-2023 Corcom Prods: 1-847-680-7400

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**TE Connectivity** 

#### MRI 2030 High Performance (100dB 100 kHZ to 10 GHz)

# MRI2030

#### Features

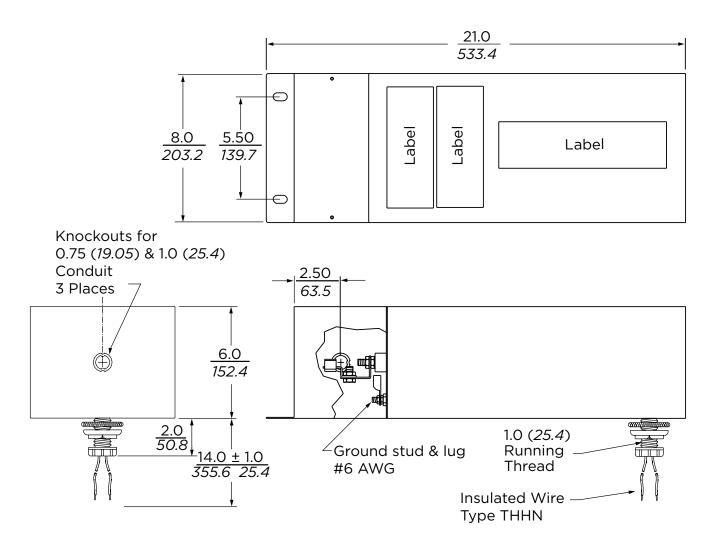
- UL 1283 listed
- Filter compartment sealed, constructed of suitably plated or stainless steel
- Removable input cover for terminal access and field wiring connection
- Threaded conduit fitting with flexible lead on the load side
- Knockouts provided on the input side
- Discharge bleeder resistor provided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



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#### 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:

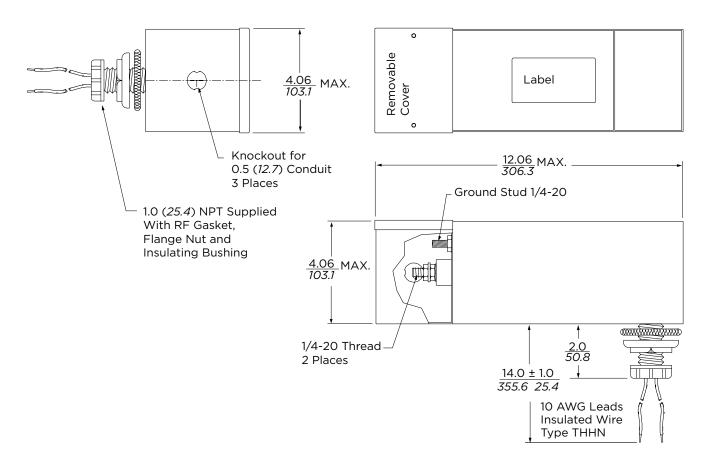
100 dB minimum shielding effectiveness.

Insertion Loss:

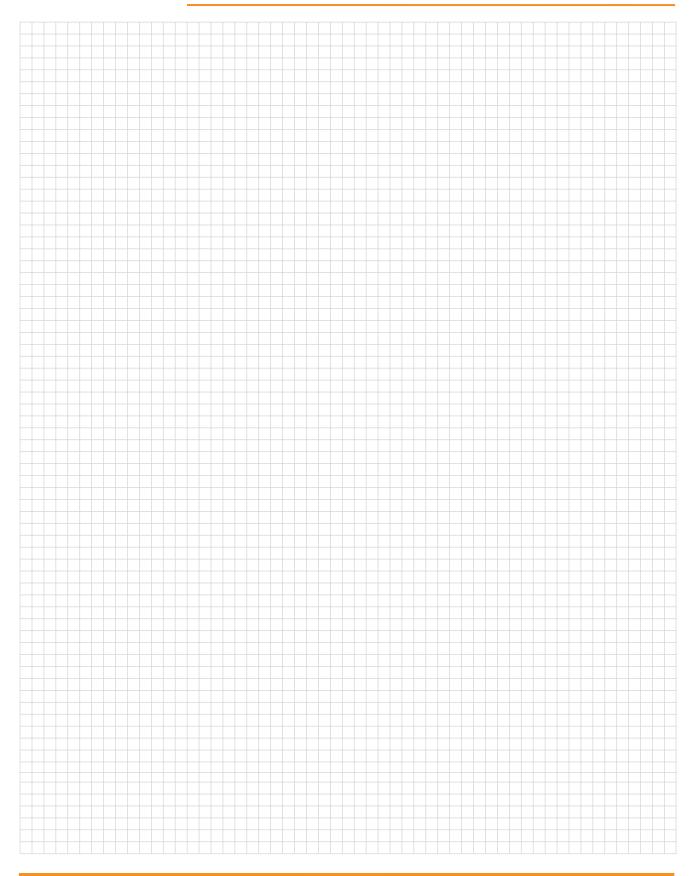
100 dB from 5 MHz - 20 GHz per MIL-STD-220.



#### 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

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#### **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

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