

Selection Table for SCCR Power Distribution Blocks and Power Terminal Blocks

Short-Circuit Current Rated Power Distribution Blocks

Cooper Bussmann offers three distinctly different styles of short-circuit current rated power distribution blocks (PDBs) and power terminal blocks (PTBs) to match different application needs. The differences are whether the power distribution blocks are enclosed or not, and whether they are UL1953 Listed PDBs or UL1059 Recognized PTBs, which have different minimum spacing requirements. The table on this page can assist in the selection of the right series for your application requirements.

Why these are important?

Assembly short-circuit current ratings (SCCRs) are now required in the 2008 NEC® and UL 508A Listed Industrial

Control Panels. Marking the SCCR on Industrial Control Panels (NEC® 409.110), Industrial Machinery Electrical Panels (NEC® 607.3(A)), and HVAC equipment (NEC® 440.4(B)) is now required by the National Electrical Code. PDBs or PTBs not marked with a SCCR, typically are the weakest link and may limit an assembly to no more than 10kA SCCR. The PDBFS and PDB Series have increased spacing required where used in feeder circuits in equipment listed to UL508A (UL1059 PTBs must be evaluated for proper spacings). Also, for building wiring systems, the PDBFS Series and PDB Series power distribution blocks can be used to meet the new 2008 NEC® requirements in section 376.56(B) for PDBs in wireways.

Selection Table

| Description | Catalog Page | UL | Enclosed | High SCCR* | Spacing** 1" Air 2" Surface | Industrial Control Panels UL 508A Branch Circuit | Industrial Control Panels UL 508A Feeder Circuit | HVAC UL 1995 | Wireways NEC® 376.56(B) (Requires UL 1953) |
|--------------|--------------|----------------|----------|------------|-----------------------------------|--|--|-----------------|---|
| Series PDBFS | 295 | UL 1953 Listed | Yes† | Yes | Yes | Yes | Yes | Yes | Yes |
| Series PDB | 296 | UL 1953 Listed | No*** | Yes | Yes | Yes | Yes | Yes | Yes w/optional cover |

† IP20 finger-safe under specific conditions, see datasheet 1149.

*When protected by proper fuse class with maximum ampere rating specified or less.

** See PDB Spacing Requirements for Equipment table below.

***Optional covers are available. Not IP20, but provide a safety benefit.

****No, except: Yes, if single pole units installed with proper spacings.

PDB & PTB Minimum Spacing Requirements for Equipment

| UL Standard | Spacing between live parts of opposite polarity | | Spacing between live parts and grounded parts or enclosure @600V |
|----------------------|---|--------------------|--|
| | Through air @600V | Over surface @600V | |
| 508A Feeder Circuits | 1" | 2" | 1" |
| 508A Branch Circuits | 3/8" | 1/2" | 1/2" |
| 1995 HVAC | 3/8" | 1/2" | 1/2" |

Note: Refer to Specific UL standards for complete spacing details.



Series PDBFS



Series PDB

Series PDB of Power Distribution Blocks



Electrical

- 600Vac/dc (UL 1953)
- Short-circuit current ratings up to 200kA, see table
- Wire range 14 AWG to 350 kcmil Cu
- Spacing between uninsulated opposite polarities or ground meets UL 1953 which requires at least 1" through air and 2" over surface
- Ratings available with circuit breakers

Mechanical

- Panel mount
- Flammability, UL 94V0
- Tin-plated Al connectors suitable for Cu conductors

Optional covers

Covers are ordered for each individual pole, i.e., three 1-pole covers for 3-pole block, see table A.

Except PDB321 blocks have one cover for 1, 2 or 3 pole versions, see table B.

| Block | Cover |
|----------------|----------|
| PDB2XX-(pole): | CPB162-1 |
| PDB3XX-(pole): | CPDB-1 |

| Block | Cover |
|----------|--------|
| PDB321-1 | CPDB-1 |
| PDB321-2 | CPDB-2 |
| PDB321-3 | CPDB-3 |

Feature/Benefits

- High short-circuit current ratings up to 200kA. These PDBs do not have to be the weak link in achieving high SCCR for an industrial control panel
- Listed to UL 1953 which has minimum spacing requirements at 600V of at least 1" through air and 2" over surface required for feeder in UL 508A Industrial Control Panels
- For 2D CAD drawings visit www.cooperbussmann.com

Agency/Standards

- UL Listed 1953, Guide QPQS, File E256146

Series PDB

| | | Terminal Copper Conductor Capability | | | Short-Circuit Current Rating Data | | | | | | | |
|----------------------------------|------|--------------------------------------|------------------------------|-------------------|-----------------------------------|--------------|-----------------------|---|---|--|---|-------------------------|
| | | Line | Load | Configuration | Conductors | | Max Fuse Class & Amp* | | | | SCCR | |
| Catalog Number | Amps | Wire Range | Wire Range | Openings per Pole | | Line | Load | J | T | RK1 | | RK5 |
| - Pole | | | | Line | Load | AWG or kcmil | AWG or kcmil | LPJ | JJS JJN | LPS-RK LPN-RK | FRS-R FRN-R | |
| PDB204-1 PDB204-3 | 175A | 2/0 - 8 AWG | 2/0 - 8 AWG | ○ | ○ | 2/0 - 8 | 2/0 - 8 | 200 | 200 | 200 | 60 | 200kA |
| PDB220-1 PDB220-3 | 175A | 2/0 - 8 AWG | 4 - 14 AWG | ○ | ○ ○ ○ ○ | 2/0 - 8 | 4 - 12 14 | 200 175 [†] 200 [†] | 200 175 [†] 200 [†] | 200 [†] 100 [†] 100 [†] | 60 [†] 60 [†] 60 [†] | 200kA 100kA 50kA |
| PDB280-1 PDB280-3 | 175A | 2/0 - 8 AWG | 1/4-20 X 3/4 STUD | ○ | ⬡ | 2/0 - 8 | Stud | 200 | 200 | 100 | 60 | 200kA |
| PDB321-1 PDB321-2 PDB321-3 | 175A | 2/0 - 8 AWG | 4 - 14 AWG | ○ | ○ ○ ○ ○ | 2/0 - 8 | 4 - 12 14 | 400 400 [†] 175 [†] | 400 400 [†] 175 [†] | 200 [†] 400 [†] 100 [†] | 100 [†] 100 [†] 60 [†] | 200kA 100kA 100kA |
| PDB323-1 PDB323-3 | 310A | 300kcmil - 4 AWG | 4 - 12 AWG | ○ | ○ ○ ○ ○ | 300 - 4 | 4 - 8 10 - 12 | 400 400 [†] 175 [†] | 400 400 [†] 175 [†] | 200 [†] 400 [†] 100 [†] | 100 [†] 100 [†] 60 [†] | 200kA 100kA 100kA |
| PDB370-1 PDB370-3 | 310A | 350kcmil - 4 AWG | 4 - 14 AWG | ○ | ○ ○ ○ ○ ○ ○ ○ ○ | 350 - 4 | 4 - 8 10 - 14 | 400 400 [†] 175 [†] | 400 400 [†] 175 [†] | 200 [†] 400 [†] 100 [†] | 100 [†] 100 [†] 60 [†] | 200kA 100kA 100kA |
| PDB371-1 PDB371-3 | 310A | 350kcmil - 4 AWG | (6) 2 - 12 AWG (3) 1/0-12 | ○ | ○ ○ ○ ○ ○ ○ ○ ○ | 350 - 4 | 1/0 - 6 8 - 12 | 400 400 [†] 175 [†] | 400 400 [†] 175 [†] | 200 [†] 400 [†] 100 [†] | 100 [†] 100 [†] 60 [†] | 200kA 100kA 100kA |

Ampacities 75°C per NEC® Table 310.16 and UL508A Table 28.1

* Class G 60A (SC-60) or less or Class CC 30A (LP-CC-30, FNQ-R-30_SP, KTK-R-30) or less are suitable for all these SCCR in this table.

† Higher SCCR may be available, check data sheet 1149.