ASCO Power Technologies®

Full Facility Surge Protection

Competitive Grade

Application Guide

Service Entrance - AC Power

All facilities that employ mission-critical electronic equipment should have a properly sized surge protective device, (SPD) installed at the main electrical service entrance. Surge protection connected to the incoming power line provides the first line of defense against transient surges which are typically caused by nearby utility grid switching, lightning or other power disturbances.

The **ASCO Model 440 & Model 460** surge protective devices have been tested in critical locations using industry leading surge and noise attenuation technology. Their redundant design offers exceptional performance and reliability. Each is ANSI/UL 1449 Fourth Edition Listed and backed by a worry-free 10-year replacement warranty.

ASCO Model 460

ASCO Model 440

	Compression Lug Connection (Recommended installation using a Circuit Breaker)	Rotary Disconnect Switch Connection (Recommended for all installations)
Voltage	Part Number	Part Number
120/208VAC, 3 Phase WYE, 4W+G	440120YP30ACAJ10	460120YP30ATCL10
277/480VAC, 3 Phase WYE, 4W+G	440277YP30ACAJ10	460277YP30ATCL10
480VAC, 3 Phase Delta, 3W+G	440480CP30ACAJ10	460480CP30ATCL10
240VAC, 3 Phase Delta, 3W+G	440240CP30ACAJ10	460240CP30ATCL10

Branch Panels – AC Power (Robust Option)

Dangerous power disturbances can exist anywhere in a facility. In fact, a large portion of transients are generated by equipment from within a facility. Installing surge protection at the electrical service entrance and distribution panels are prudent choices. However, in most cases these choices don't go far enough in securing overall power quality protection for individual pieces of equipment operating within a building. In order to be fully protected, we strongly recommend surge protection be installed at specific sensitive loads or anything drawing an AC current.

ASCO Model 425

ASCO encourages customers to install surge protection at key branch panelboards, and recommend surge protection be installed at specific sensitive loads, including uninterruptible power supplies (UPS), computers or other mission-critical equipment found within a facility.

The **ASCO Model 425** surge protective device is a multi-phase, multi-mode distribution panel mounted surge protective device that offers continuous protection from damaging transients and electrical line noise, perfect for facility-wide applications and it's compact size allows it to be easily retrofitted on existing panelboards. It's also manufactured using an array of surge components with built-in redundancy and reliability is ANSI/UL 1449 Fourth Edition Listed and backed by a worry-free 10-year replacement warranty.

	Wire Lead Connection (Recommended installation using a Circuit Breaker)
Voltage	Part Number
120/240VAC, Single Phase, 3W+G	425120SP10AWAJ10
120/208VAC, 3 Phase WYE, 4W+G	425120YP10AWAJ10
277/480VAC, 3 Phase WYE, 4W+G	425277YP10AWAJ10
480VAC, 3 Phase Delta, 3W+G	425480DP10AWAJ10
240VAC, 3 Phase Delta, 3W+G	425240DP10AWAJ10

Branch Panels – AC Power (Economy Option)

Electric power line disturbances such as high voltage transients can disrupt or damage sensitive electronic equipment — causing a major loss in productivity and money. ASCO understands this problem and offers the 300 Series surge protective devices — the reliable way to keep these power problems from damaging your facilities sensitive equipment in the first place.

Model 350 SPD — Designed for use on branch panels or equipment in low exposure locations. Available up to 50kA/phase surge current capacity, a 100kAIC fault rating, LED status indication and Form C contacts for remote indication are standard, 5-year warranty.

Model 355 SPD — Offers protection from transients on distribution panels or any medium exposure location. Available in 100kA/phase protection and 160kA/phase protection, it offers a small footprint, NEMA 12 enclosure, silver link fusing with thermal protection, 65kAIC fault rating, and a 5-year warranty.

ASCO Models 355 & 350

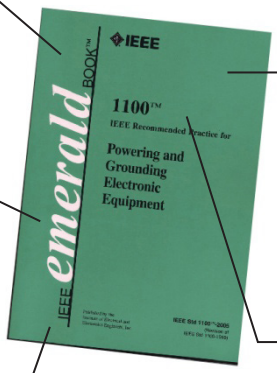
	Branch Panels (Recommended installation using a Circuit Breaker)	Distribution Panels (Recommended for all installations)
Voltage	Part Number	Part Number
120/240VAC, Single Phase, 3W+G	350120SP05AWRC10	355120SP10AWRL20
120/208VAC, 3 Phase WYE, 4W+G	350120YP05AWRC10	355120YP10AWRL20
277/480VAC, 3 Phase WYE, 4W+G	350277YP05AWRC10	355277YP10AWRL20
480VAC, 3 Phase Delta, 3W+G	350480DP05AWRC10	355480DP10AWRL20
240VAC, 3 Phase Delta, 3W+G	350240DP05AWRC10	355240DP10AWRL20

IEEE Standard

IEEE Standard 1100 Section 4.4.5.2 "A single lightning or switching surge often causes immediate, but not readily apparent physical damage to semiconductor devices. This damage then finally appears at some later time…"

IEEE Standard 1100 Section 8.6.2 "…Recommended SPD installation practice is for all lead lengths to be short and shaped to minimize open-loop geometry between the various conductors…by twisting all the phase, neutral, and equipment grounding conductors together; and by avoiding any sharp bends and coils in the conductors."

IEEE Standard 1100 Section 8.6.3 "Facilities housing electronic load equipment of any type should have service entrances equipped with …Category "C" surge protective devices, as specified in IEEE Std C62.41-1991."



IEEE Standard 1100 Section 8.6.4 "… it is recommended that additional surge protective devices of listed Category "B" or Category "A," as specified in IEEE Std C62.41-1991, be applied to downstream electrical switchboards and panelboards, and panelboards on the secondary side of separately derived systems if they support communications, ITE, signaling, television, or other form of electronic load equipment."

IEEE Standard 1100 Section 8.6.5 "…It is recommended practice that both the input circuit to the UPS and the associated bypass circuits (including the manual bypass circuit) be equipped with effective Category "B" SPD"

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