Control Panel Cable Management, Space Savings, Noise Reduction, Grounding/Bonding, Identification, Networking, Power and Safety

Networking
Double Jacketed Fiber or Marine Copper horizontal network cable to the field devices routed via Wyr-Grid

Power
Large ferrules safely and reliably terminate flex cable

Cable Protection
Control panel mounts provide strain relief

Identification
Raised labels have similar durability as engraved

Networking
Ultracap UPS to ride through power bumps

Networking
DIN RJ45 or LC patch box structured cabling

Cable Management
Flex duct bends while routing cables

Networking
Pre-made or custom fiber patch cord

Networking
Copper patch cord (STP or UTP)

Cable Management
Cable clamps secure cable with best flexibility

Safety
Data access port and data bulkhead provides network and USB connectivity to devices without opening panel

Identification
Rotating labels eases viewing

Space Savings
Corner duct increases free space

Cable Protection
Dynamic cable manager for panel door strain relief

Cable Protection
Harness wrap prevents abrasion

Electrical Noise Reduction
Shielded duct minimizes noise on data cables

Grounding/Bonding
Wide bonding strap bonds panels and doors for high frequency noise

Electrical Noise Reduction
Noise shield between data and electrical cables minimizes noise on data cables

Foil

Grounding/Bonding
Universal ground bar has a variety of terminations

Space Savings
DIN Rail Duct increases free space by 30%

Use this drawing when:
- Designing a new control panel
- Retro-fitting an existing panel
- Addressing performance or reliability issues
- Running out of panel space
- Protecting equipment and people

Panel Side

Panel Door Closed

Main Disconnect

Net Switch

Power Filter

PLC

AC Drive

AC Drive

IP Tap

IP Tap

Power Source

Power Monitor

Ethernet Enabled Servo Drive

I/O

Power

START STOP OFF ON

* Other Panduit products shown but not called out include duct, lugs, terminals, ferrules, labels, cable ties, mounts, overhead cable tray and more

PCD004-JAN21-ENG

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Connected Control Panel
(Cabling Subsystem 1-0)

Bill of Materials

Part Number	Description
Cable Protection and Management	
CPM122S-C	Control panel switch cable tie mount, 1.22" (31.0mm) hole.
FL12X12LG-A	PanDuct type FL flexible wiring duct, 12.5mm W x 12.5mm H, 19.7' length, flexible polypropylene, adhesive, light gray.
ARC.68-A-C	Adjustable and releasable clamp, .69" (17.5mm) bundle, white, bulk package.
ABDCM30-A-C	Cable manager for panel strain relief, 1.12" long x 1.12" wide (28.4 x 28.4 mm), made of nylon 6.6, for use with miniature, intermediate, and standard cable ties.
PW50F-T	Pan-Wrap Split Harness Wrap, 0.50" (12.7mm), Natural, 200 ft. (61m) per roll.
IAEBH6XS	Industrial Ethernet connector, Category 6, STP.
Electrical Noise Reduction and Space Savings	
G2X2LG6EMI	Shielded wiring duct, 2 W x 2 H, 6' length, PVC, light gray.
SD2EMI	PanDuct PanelMax noise shield, EMI noise shield kit for 2" height Panduit wiring duct, (2) 3 foot sections, bonding clips, and anti-oxidizing paste, steel, black
DRD22LG6	PanDuct PanelMax DIN rail wiring duct (base, covers and DIN rail fasteners), 2" high, PVC, light gray.
CWD2LG6	PanelMax corner wiring duct, 3.35W x 2.57H (0.2mm x 5.0mm) slot width, light gray.
Grounding, Bonding and Power	
UGB2/0-414-12	Universal ground bar accepts #14 – #4 AWG wire in 12 wire ports and up to a 2/0 AWG main equipment grounding conductor with a compression or mechanical connector, 8.28" (210.3mm) length, 0.62" (15.7mm) width, 0.48" (12.2mm) height.
BS100445	Braided Bonding Strap, one-hole, insulated, 4.00" length x 1.06" width (101.6mm x 27.0mm).
F91-40-L	Ferrule, non-insulated, 4/0 AWG wire range, 250 kcmil (120.0mm²) Wire Size, 1.57 (40.0mm) pin length.
C120X150APT-22	Thermal transfer raised panel push button label, 1.20" W x 1.50" H, raised panel, white, 3 labels/row, 500 pc. package quantity.
R050X075X1J	Laser/ink jet, self-laminating Turn-Tell label, print-on area 0.25" (6.4 mm), clear with a white print-on area color, label is 0.50" wide and 0.75" long (12.7 x 19.1 mm), supports 18-14 AWG wire/cable. It has 12 of labels per row, 84 labels per sheet, and comes in packages of 5000.
DAP4BC-G0-5	Data Access Port, 4-inch base, GFCI outlet, Category 5e coupler
VS-AVT-C08-L10	VeriSafe AVT device automates and simplifies the process of absence of voltage verification testing. Includes AVT test device equipped with 10 ft. Sensor leads, 8 ft. System cable, and industrial Lithium battery
Networking	
ISTPH6X2MTL	IndustrialNet Patch Cord, Category 6A, Shielded, 600V, RJ45 plug to RJ45 plug, Teal, 2 meter
CDPP8RG	IndustrialNet, 8-port DIN rail mount patch panel. Includes screws to attach faceplate and Ultimate ID labels and clear label covers.
FDME8RG	IndustrialNet 8-port DIN Rail Fiber Optic Enclosure provides enclosed fiber protection for terminated distribution style cabling and includes a PG21 or 3/4 NPT cable cord grip to secure fiber cable(s) exiting the enclosure.
UPS00100DC	Maintenance-free, No battery, 100 Watts, 24V DC Uninterruptible Power Supply (UPS)
FOJDZ12	50um OM4 12 Fibers, Indoor/Outdoor DDJ cable, Riser (OFNR-LS), LSZH
ISFCH6X04ATL-UG	Category 6A SF/UTP cable, 4-pair, 24/7 AWG stranded copper conductors, CMR, 600V rated, Oil Res., UV Res.,Teal

For an expanded product offering visit panduit.com/networkpartsamerica or the online catalog at panduit.com.

About this Configuration

Control panels are being packed with more gear causing challenges with overcrowding, susceptibility to noise, and challenging moves/adds/changes. This drawing lays out options to address these concerns.

Cable Protection and Management

Minimizing chaffing, cuts, and strains is paramount to achieve high reliability and designed performance. The key is securing, covering, and separating cables from hazards.

Electrical Noise Reduction and Space Savings

Mitigating electrical noise and utilizing 3D panel space facilitates higher density device designs to fit into tight panel layouts or lead to a smaller panel footprint.

Grounding & Bonding

Grounding and bonding is critical for reliable network communication, especially dissipating high frequency noise. Utilizing ground bars and bonding straps is a best practice for grounding.

Identification & Safety

Moves, adds, and changes need to be done correctly, efficiently, and safely. Identification is critical to guide personnel to make the right connections and prevent erroneous disconnects. Protect personnel by preventing contact with hazards while providing same capability.

Networking

Ethernet-enabled controls, drives, and sensing hardware are proliferating. Panels need to manage network cabling and devices while minimizing environmental impacts like heat, electrical noise, vibration, etc.

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