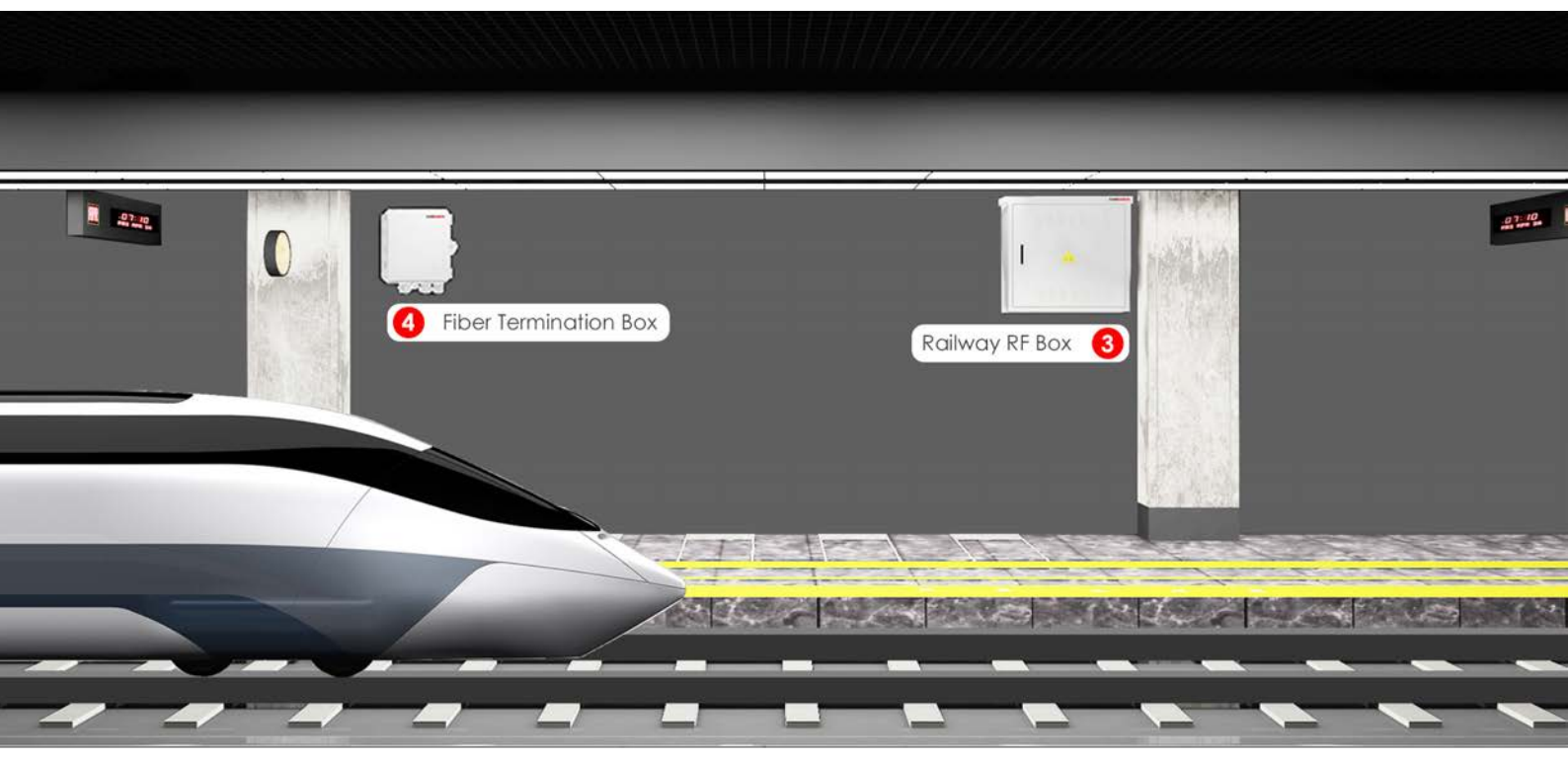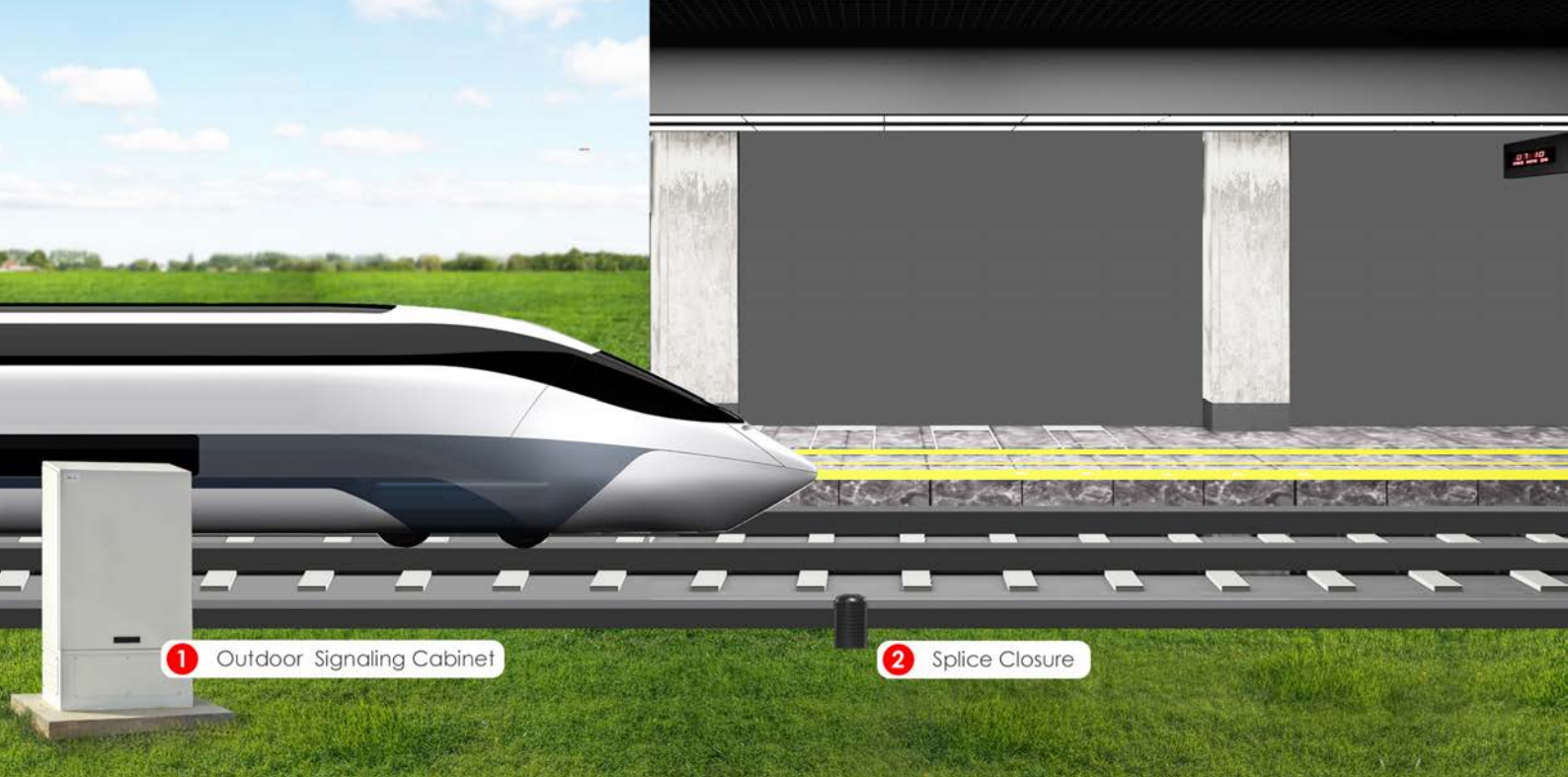A state-of art Railway & Transport infrastructure is a critical component for a strong and sustainable economic growth in any country or region. We have an exponentially growing demand for high speed railway systems between cities and states, and a wider network of metro systems in developing cities. Ensuring safety and reliability is still the main concern, while improving efficiency of operations and reducing the total cost of ownership (TCO).

Communication networks play a crucial role in helping railway operators and public transport authorities to ensure on-time, safe and connected journeys. They run alongside the railways infrastructure and are the medium to provide reliable voice, data, RF and signalling services for train control, operations, emergency communications, multimedia collaboration, CCTV protection and also passenger connectivity.

Canovate is providing state of art and flexible products based on its wide expertise in fiber optics and datacenter& enclosure solutions for the demanding requirements for railway&transport industry.

1. Outdoor Signaling Cabinet
2. Splice Closure
3. Railway RF Box
4. Fiber Termination Box
5. Micro DC
6. IP 54 Rack
7. Seismic Rack
8. IP 54 High Density ODF
9. Fiber Duct

IT & Control Room

Outdoor Signaling Cabinet

CAN-FDT-85

Overview

Advanced fiber optic networks using Point-to-Point or Point-to-Multi point architectures require high density fiber distribution points to supply FTTX services to the customers. High-quality fiber optic connectivity relies on the increased protection offered by weatherproof outdoor cabinets.
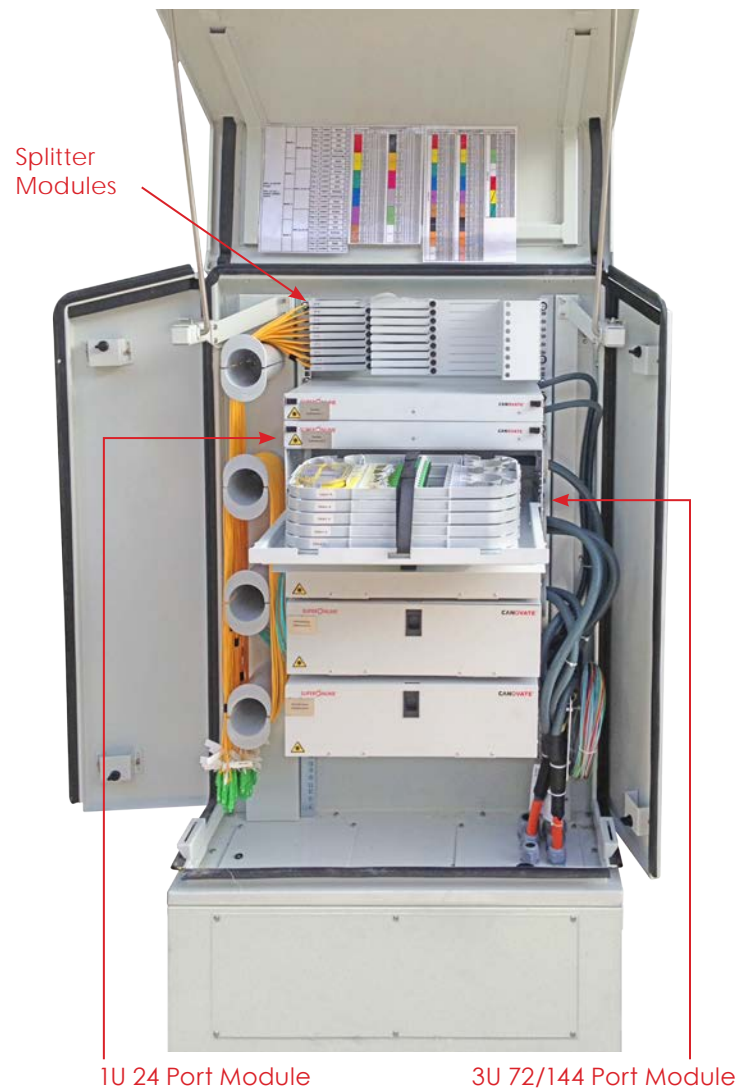
Highlights

- Weather-proof outdoor cabinet for installation of optical distribution modules
- IP 55 protected
- Motor hood single front door with outward swinging capability
- Assembly of modular optical building blocks like splice, patch and splitter modules
- Suitable for multi fiber management
- Provides a secure anchor for incoming loose tube cables within the cabinet
- Suitable for different cable diameters
- Easy installation and removal
- Doors are protected from external access through hidden hinges
- High resistivity against corrosion-aluminum or Galvanized steel options
- 19 inch mounting rails
- CNC controlled polyurethane (PUR) gasketing is available for all of the complete openable surfaces of the outdoor to provide IP55 protection degree ,which is complying with the EN6O529 standard

Technical Details

Dimensions	800 mm (W) x 300 mm (D) x 1610 mm (H)
Material	Galvanized steel
Color	RAL 7035, special epoxy polyester outdoor paint
Weight	53 kg including plinth
Plinth	250 mm (H)

Applications

Railway & Metro Applications, fiber cross-connect applications, FTTX distribution hubs, Applications for Passive Optical Networks (PON) and Optical Access Networks (OAN) as a distribution point to network terminations for hybrid access technology (fiber/copper) as an Optical Node Unit (ONU)

Splitter Modules

1U 24 Port Module   3U 72/144 Port Module

Splice Closure

CAN-DO-5001 Dome Type

Highlights

- Protection class: IP68
- Total 7 inlet/outlet ports
- Diameter of 2 ports is 25mm
- Diameter of oval port is 20 mm (can also accommodate 3 pcs. of fiber cable with max. diameter of 20mm)
- All installation accessories are included, good sealed performance.
- Splitter Option 1x4, 1x8, 2x4, 2x8
- Quick installation type, easy to install and maintain.
- Widely used for aerial and underground.

Accessories:

- Earthing deriving device
- Buffer tube for bunchy fiber
- Pressure testing valve
- Branching clip
- Heat shrinkable fixing sleeve
- Metal hoop

Technical Details

Dimensions	520mm x 175mm (h x d)
Material	Polypropylene
Weight	2,2 kg
Capacity	12/24/36/48/72 fibers
Maximum	72 fibers with 6 pcs. of 12 port bunchy tray

Functional Block Diagram

Main Cable
Distribution Cable
Splice Point
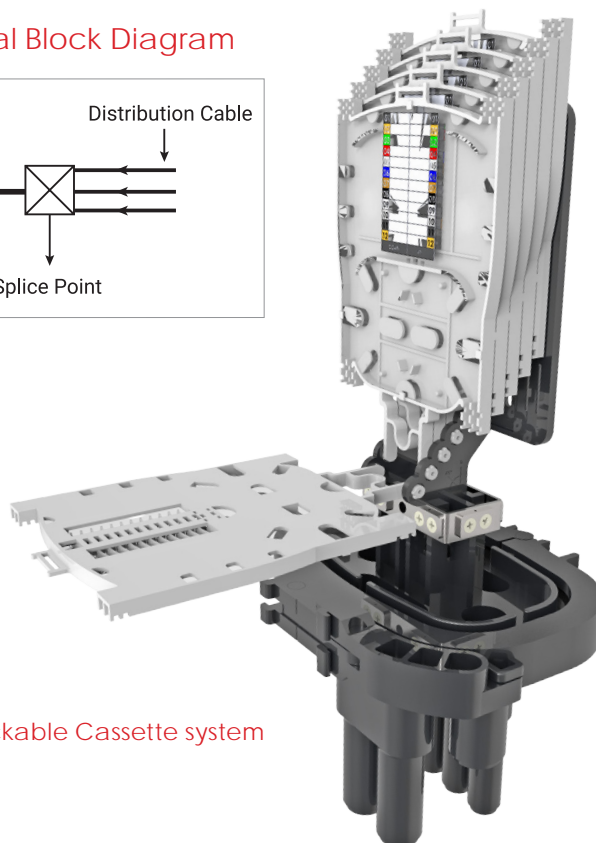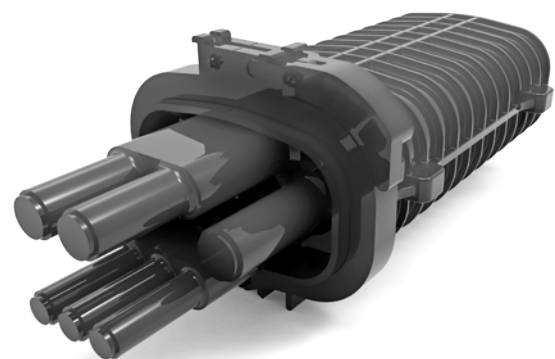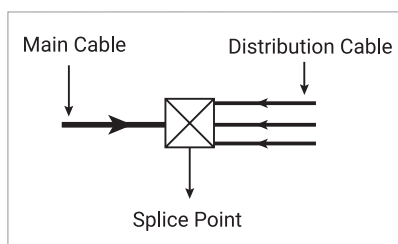
Stackable Cassette system

Railway RF Box

Overview

Railway RF Box is used to provide WIFI radio communications to the running trains for signaling applications. It is used to protect the Radio, electrical and the optical components. The box is made from a galvanized steel case containing two ODRAPs and one Multimedia radio modem and all components needed.

This box can be fixed on walls and masts.

Highlights

- Weather-proof outdoor cabinet for installation of RF & WIFI equipment
- Galvanized Steel
- IP 55 protected
- Robust mounting brackets for wall fixing
- Single front door
- CNC controlled polyurethane (PUR) gasketing is available for all of the complete openable surfaces of the outdoor to provide IP55 protection degree characteristic, which is complying with the EN6O529 standard
- Optional: Mounting brackets for wall applications

Applications
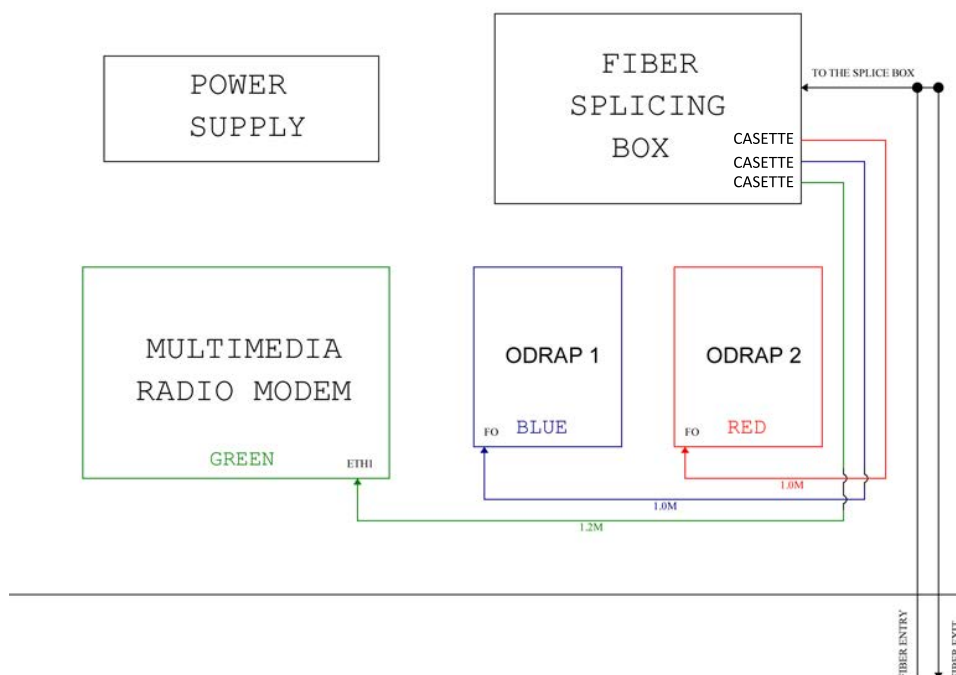
Railway & Metro Applications, outside of the buildings and poles

Technical Details

Dimensions	750 mm (W) x163mm (D) x 750 mm (H)
Material	Galvanized Steel
Color	Powder coat RAL7035
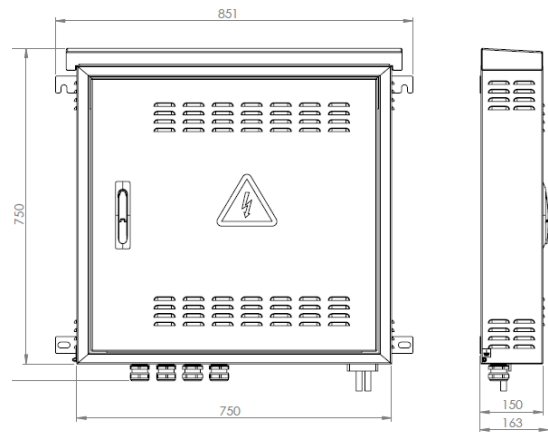
Functional Block Diagram

Fiber Termination Box

CAN-POLY-400

Overview

Designed for harsh environments outside of the premises and on poles for FTTX applications.

Highlights

- IP65 protected with special gasketing
- Polycarbonate, UV-Resistant
- 12-24 port capacity
- Special protection tubes and bend radien for protecting the incoming fiber from bending and guiding the fibers to the special designed splice cassettes in a professional way
- 100% Compatible to Bellcore GR-326 standards
- LC Duplex and SC Simplex Adaptors can be installed inside

Technical Details

Dimensions	200 mm(W) x 50 mm(D) x 220 mm(H)
Capacity	- 12 Port / SC Simplex adaptor - 24 Port / LC Duplex adaptor
Material	Polycarbonate
Color	RAL7035
Weight	0,52 kg / empty

Applications

Railway & Metro Applications, FTTX applications, Outside of the buildings and poles.

Functional Block Diagram

Feeder Cable

Splice Point

Pigtail 0,9mm

Pigtail Management

Connector

Adapter

Patchcord 2mm

Splitter
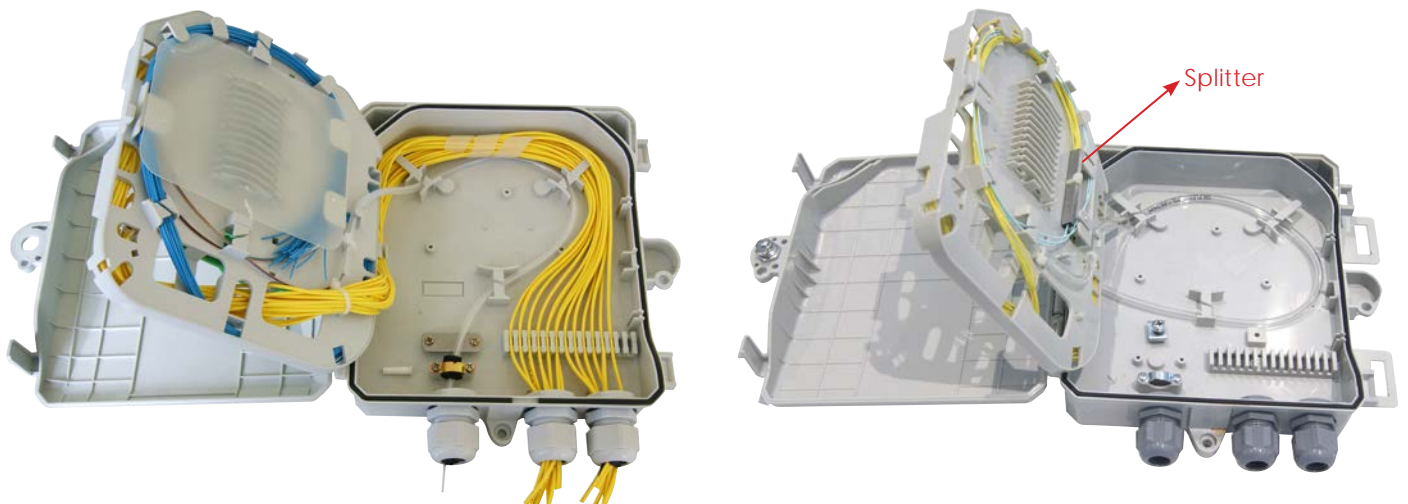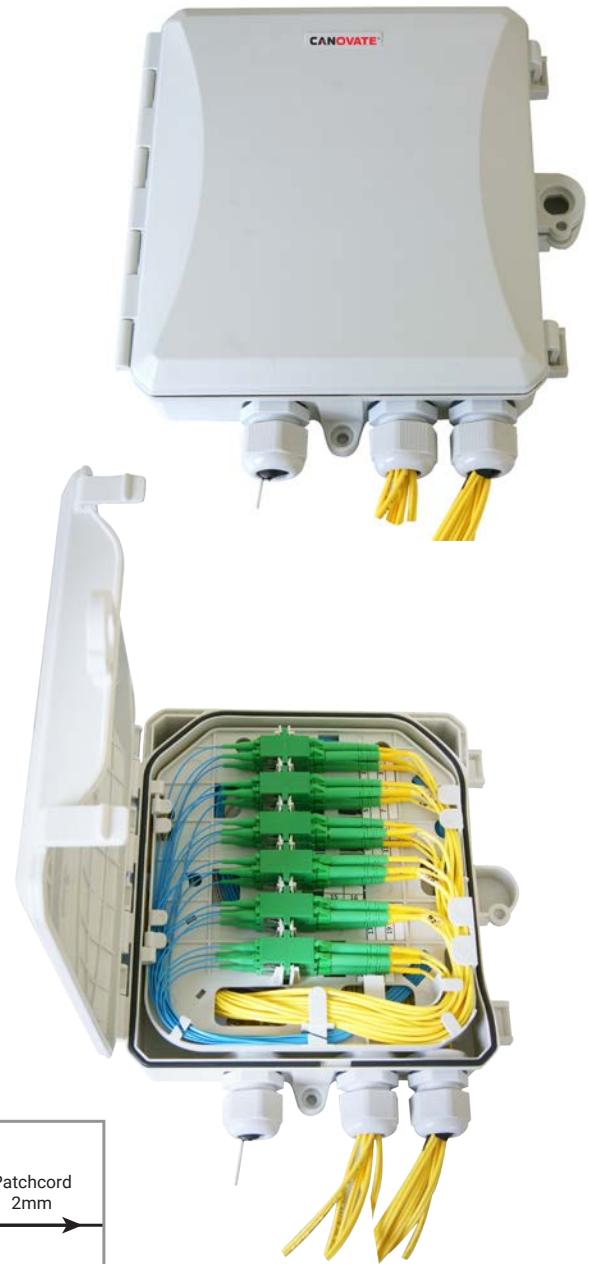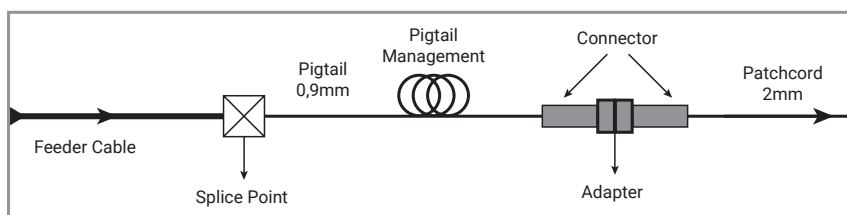
Micro Data Center

Highlights:

- Micro Plug & Play Data Center including cooling, fire suppression, monitoring, power management and protection
- Stand-alone Data Center
- Eliminates raised floor and external cooling equipment requirements
- Individual rack cooling with from 2 kW up to 4 kW
- High level security with in rack fire protection and monitoring systems
- Advanced power management enabled by IP PDU and UPS systems
- Install Data Center where you want and need it
- Rapid deployment in 4-6 weeks from plan to start-up
- Low total cost of ownership
- Up to 50% space savings
- EMS (Environmental Monitoring System)
- DCIM option
- IP PDU
- UPS
- Fire Detection/Extinguisher System (2U)
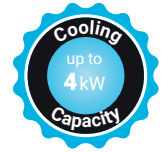- Protection Grade:IP54

Applications

- Small and Medium Size Enterprises (SME's)
- Branch offices of financial institutions (Banks, Insurance companies)
- Instant data center
- Railway & Metro Applications
- Branch offices of government institutions and utilities (Police, Army, Schools, Electricity, Water companies etc)
- Companies who wants to connect the cloud instead of investing in a big data center
- Exchange offices & Hubs of Telco's and GSM companies
- Remote locations where there is no available dedicated IT personnel
- Manufacturing companies for automation control and IT services
- Disaster recovery

AC Unit
2U Fire Extinguisher System with FM200 or Novec1230
Rack Mountable UPS
Environmental Monitoring System
IP PDU

Air Flow Sensor | Humidity Sensor | Door Contact
Liquid Sensor | Smoke Sensor | Temperature

Order Information

Height U	Outer Width (W) mm	Outer Depth (D) mm	Outer Height (H)mm (Including Cooling unit)	19" Rails Adjustable Depth Range (c)	Cooling Capacity	Part No
24U	600	1000	1651	129-729	2 kW	CPJ-X-2460A-T2K
24U	600	1000	1651	129-729	4 kW	CPJ-X-2460A-T4K
36U	600	1000	2263	129-729	2 kW	CPJ-X-3660A-T2K
36U	600	1000	2263	129-729	4 kW	CPJ-X-3660A-T4K
42U	600	1000	2529	129-729	4 kW	CPJ-X-4260A-T4K

Outer Heights include cooling unit
Height of Cooling Unit: 2 kW : 496 mm, 4 kW : 496 mm
* X : Color code = 7: RAL 7035 (Grey); 9: RAL 9005 (Black)

IP 54 inorax-AL Rack Cabinet

IP 54 Inorax-AL rack cabinet system offers the best solution for IT and Telecom applications in harsh environmental conditions where dust and water protection is required. A wide range of cable management accessories is available to ensure perfect management of copper & fiber cables and 19" equipment. Vertical 19" mounting rails can be adjusted freely through the depth, which simplifies mounting of any device and configuration of connecting cables.

Technical Features

Material	Frame ; Anodized aluminum extrusion profiles Other parts : 1,2 and 2 mm steel
Color	RAL 7035 or RAL 9005
Compliance	RoHS, UL Certified
Packaging	Assembled or unassembled
Maximum Static Load	Up to 2000 kg.
Finish	Doors, side panels, top covers: Electrostatic Powder Paint 19" mounting rails: Zinc-plated

Standard Configuration:

•   Extruded Aluminum frame chassis up to 2000 kg
•   IP Protection :IP54
•   Tempered glass front door with swing handle multi-point lock
•   Solid rear door with swing handle multi-point lock
•   Special polyurethane gasketing on doors and panels to ensure IP protection
•   Solid removable side panels
•   Bottom sheet with adjustable IP protected cable entry
•   2 pairs of depth adjustable heavy duty 19"mounting rails
•   2 pairs of adjustable feet
•   Rohs compliant, UL certified
•   100 mm Plinth optional
•   A4 document envelope,Power Terminal Block,Fluorescent light with Door Contact Sensor,60W Heater,Hygrostat,Earthing Bar,Air Filter,Bend radius,Cable Organizer

Polyurethane gasketing for IP protection

IP protected cable entry

Order Information

Height U	Outer Width (W) mm	Outer Depth (D) mm	Outer Height (H) mm	Inner Width (w1) mm	Inner Depth (d1) mm	Inner Height (h1) mm	19" Rails Adjustable Depth Range (c)	Weight kg
42U	600	600	2033	503	550	1898	129-429	84,6
42U	600	800	2033	503	750	1898	129-629	97,2
42U	600	1000	2033	503	950	1898	129-829	102,9
42U	800	600	2033	703	550	1898	129-429	97,2
42U	800	800	2033	703	750	1898	129-629	114,2
42U	800	1000	2033	703	950	1898	129-1029	119,0
42U	800	1200	2033	703	1150	1898	129-1029	119,0

X (Color code): 7:RAL 7035 Light Grey, 9:RAL 9005 Black

Seismic Rack Cabinet

Canovate® seismic cabinets are designed and manufactured according to structural performance criteria set by Bell Core NEBS requirements for installation in Earthquake Risk Zone 4 areas. Most of the accessories can be mounted within seismic cabinets. Use of a floor anchor kit is highly recommended. This Cabinet Provides easy access to equipment via a removable roof, sides and front/rear doors.

Technical Features

| Material	Frame ; Anodized aluminum extrusion profiles Other parts : 1,2 and 2 mm steel
Color	RAL 7035 or RAL 9005
Maximum Static Load	Up to 2000 kg.
Finish	Doors, side panels, top and bottom covers: Electrostatic Powder Paint, 19" mounting rails: Zinc-plated

Highlights

• Aluminum Frame Structure with 2000kg carrying capacity
• Steel reinforced cross-bars in each side of the cabinet including top and bottom
• Chassis is designed to bolt direct into floor with seismic rated fasteners
• Perforated front and rear doors
• Solid Side Panels
• Internal top sheet
• 2 Pairs of depth adjustable 19" Mounting Rails
• 2 Pairs of Adjustable Feet
• Front Door with Swinghandle Multi point-Espagnolette
• Zone 4, UL Certificated, RoHS and TS EN 61587-1 compliant

Stabilizator for ceiling

Stabilizator for raised floor
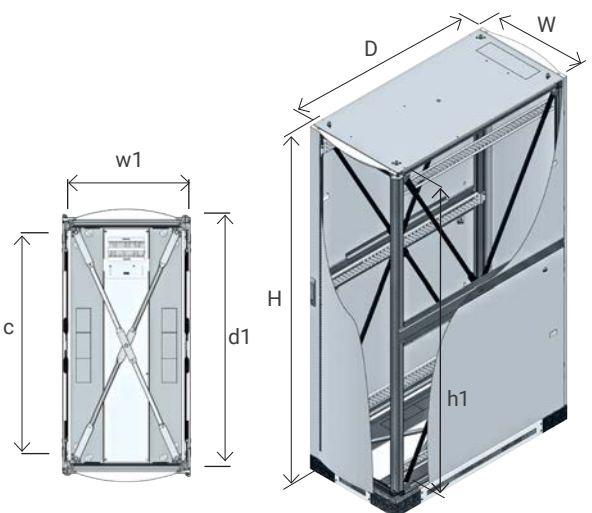
Order Information

Height U	Outer Width (W) mm	Outer Depth (D) mm	Outer Height (H) mm	Inner Width (w1) mm	Inner Depth (d1) mm	Inner Height (h1) mm	19" Rails Adjustable Depth Range (c)	Weight kg	Part No
42U	600	1000	2033	503	950	1898	129-829	146	CPB-X-4260A
42U	600	1200	2033	503	1150	1898	129-1029	171	CPB-X-4262A
42U	800	800	2033	703	750	1898	129-629	157	CPB-X-4288A
42U	800	1000	2033	703	950	1898	129-829	162	CPB-X-4280A
42U	800	1200	2033	703	1150	1898	129-1029	186	CPB-X-4282A

X (Color code): 7:RAL 7035 Light Grey, 9:RAL 9005 Black

IP 54 High Density ODF

Overview

IP 54 ODF rack cabinet system offers the best fiber distribution solution for IT and Telecom applications in harsh environmental conditions where dust and water protection is required. A wide range of cable management accessories is available to ensure perfect management of copper & fiber cables and 19" equipment. Vertical 19" mounting rails can be adjusted freely through the depth, which simplifies mounting of any device and configuration of connecting cables.

Highlights:

- IP 54 Protection
- Up to 792 port splice & patch capacity
- Up to 33 pcs. 1U fiber patch panel can be installed
- Steel frame construction
- Door, 1,5 mm thick, with 4 openings (2 at the top, 2 at the bottom) with powder coating,
- Front door has air inlet at the bottom, a shutter plate at the top,
- Rear door has air outlet at the top, a shutter plate at the bottom, and has no logo.
- Air inlet and outlet are equipped with a filter grade G4. Filter F7 available as an option.
- Studs are provided for document holder fixing, available as accessory.
- Doors can be removed from the cabinet without tooling
- Bottom sheet with IP54 cable inlet glands
- Superior fiber cable management

Applications

Railway & Metro Applications, harsh enviromental conditions

Fiber Duct System
100% Halogen Free

Protecting your fiber to secure fiber communication
- Fiber Duct is a flexible duct system for fiber optic cables specifically produced and designed for both the European and US Market.
- The system is fully enclosed protecting the fiber from dirt and dust, the duct is strong enough to protect cables against the most rigorous conditions.
- It is manufactured from a halogen free, flame-retardant UL94/V0 plastic. The product is designed to meet material specifications required throughout Europe.
- The system is easy to assemble. The only tools required are a drill, a screwdriver and a saw to cut the channels to length. The system is designed for speed of installation and minimum labour for the installer.
- The easy access covers allow fiber optic cables to be installed or removered at any time without the need to disconnect the whole system.
- The system is extremely adaptable and will evolve to suit this demanding market. Currently it is supplied in three sizes: 50mm x 50mm, 100mm x 100mm and 200mm x 100mm.
- Canovate® offers a complete design package to assist you with the layout of your ducting system.

Highlights

- Zero-halogen material
- No cutting required
- No tools needed
- Meets UL94V-0
- Total radius control
- Low profile
- Flex-tube adapter options

Product
Technically advanced communications equipment needs superb ancillary support therefore:
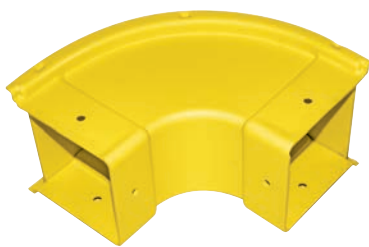- We will design product that surpasses the latest standards at the lowest possible cost.
- Continuous improvement will be at the forefront of our design strategy to continually innovate in our market.

Fiber Raceway Outlet

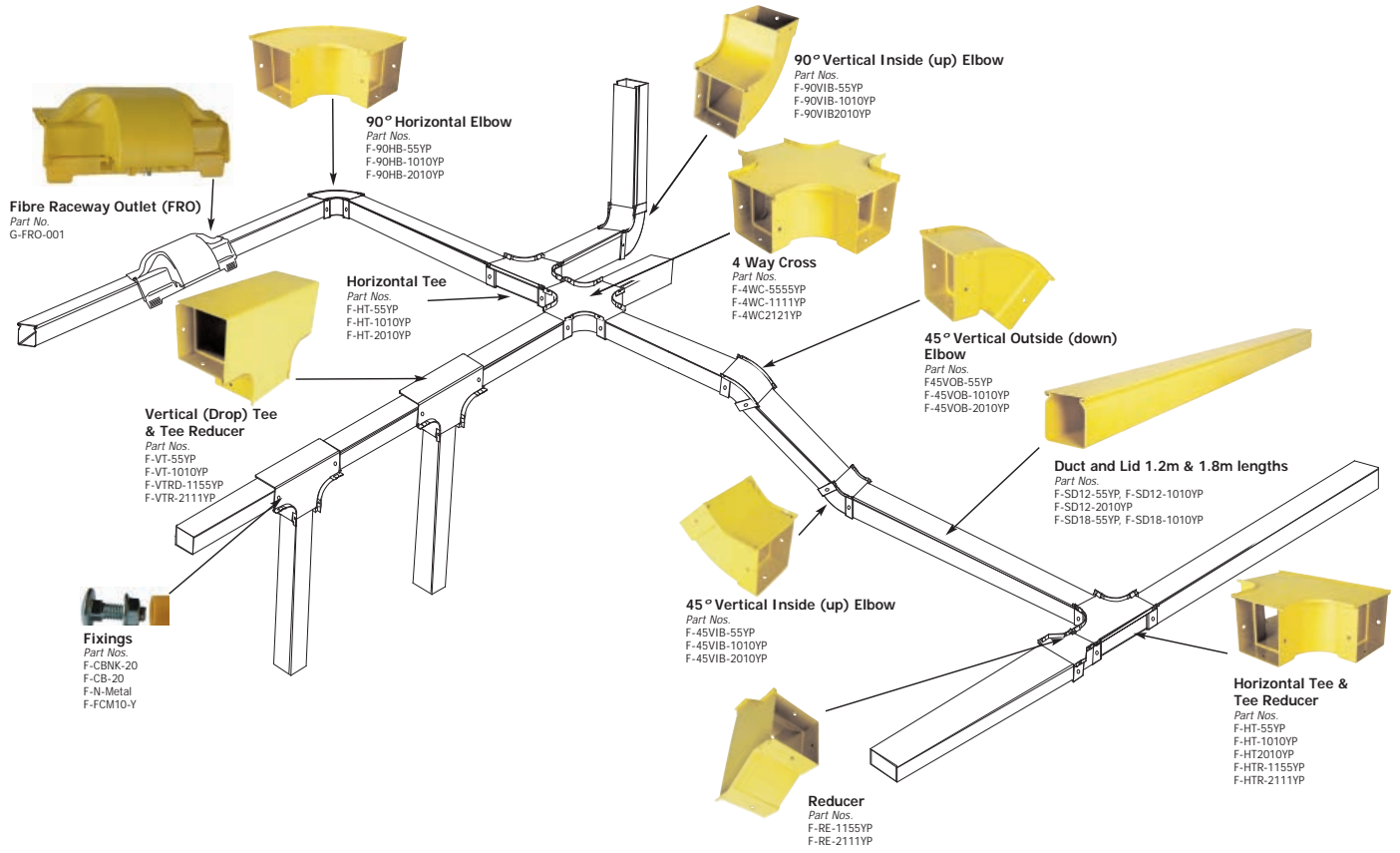4 Way Cross Application

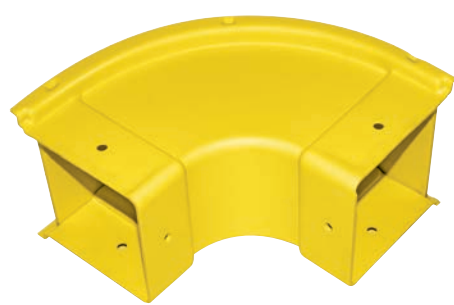90° Horizontal Elbow

Vertical Tee Offset

Reducer Part

CANOVATE®

System Overview

90° Vertical Inside (up) Elbow
Part Nos.
F-90VIB-55YP
F-90VIB-1010YP
F-90VIB2010YP

90° Horizontal Elbow
Part Nos.
F-90HB-55YP
F-90HB-1010YP
F-90HB-2010YP

Fibre Raceway Outlet (FRO)
Part No.
G-FRO-001

Horizontal Tee
Part Nos.
F-HT-55YP
F-HT-1010YP
F-HT-2010YP

4 Way Cross
Part Nos.
F-4WC-5555YP
F-4WC-1111YP
F-4WC2121YP

45° Vertical Outside (down) Elbow
Part Nos.
F45VOB-55YP
F-45VOB-1010YP
F-45VOB-2010YP

Vertical (Drop) Tee & Tee Reducer
Part Nos.
F-VT-55YP
F-VT-1010YP
F-VTRD-1155YP
F-VTR-2111YP

Duct and Lid 1.2m & 1.8m lengths
Part Nos.
F-SD12-55YP, F-SD12-1010YP
F-SD12-2010YP
F-SD18-55YP, F-SD18-1010YP

Fixings
Part Nos.
F-CBNK-20
F-CB-20
F-N-Metal
F-FCM10-Y

45° Vertical Inside (up) Elbow
Part Nos.
F-45VIB-55YP
F-45VIB-1010YP
F-45VIB-2010YP

Horizontal Tee & Tee Reducer
Part Nos.
F-HT-55YP
F-HT-1010YP
F-HT2010YP
F-HTR-1155YP
F-HTR-2111YP

Reducer
Part Nos.
F-RE-1155YP
F-RE-2111YP

Vertical Tee Duct

90° Horizontal Elbow

Vertical Tee Offset

4 Way Cross