

# CANNON S-TYPE OUTDOOR CABINET

OUTDOOR ENCLOSURE PROTECTION FOR SENSITIVE ELECTRONICS



Cannon Technologies has been manufacturing cabinets for Indoor and Outdoor applications for over four decades. Cannon has a long history of product development both for military and civilian applications. This broad based experience has been fundamental to the development of a wide range of integrated outdoor railway/trackside enclosure systems. In addition to the cabinets shown Cannon offers thermal and diagnostic systems.

Among these are:

- **Conventional cooling:** using natural ambient air cooling
- **FanCell:** forced air cooling
- **CoolCell:** compact forced air high efficient heat exchangers
- **ChillCell:** Solid State chilling unit
- **FreezeCell:** compact air conditioning unit
- **CannonGuard:** a fully integrated life support system for the control and monitoring of all critical functions. Remote and attended diagnostic facility offering 40 or more discreet alarms.

## Product Range

Cannon has an extensive range of outdoor roadside & trackside enclosure systems for the transportation and communications markets, these include:

- FTTx – Copper/Fibre Optic Cabinets
- SISS/CIS Cabinets for security & info
- MK2 Telecommunications Cabinets
- StreetWise Active Cabinets
- Termination Boxes
- Type C Cabinets (For copper cables)
- CatWalk Pedestal Cabinets
- Apparatus/Location Cases (NR approved)

Products can also be manufactured to meet clients precise requirements.



Over its history Cannon has produced over 150 different designs of outdoor enclosures; these break out into four distinct categories. Cannon has named these differing types as follows:

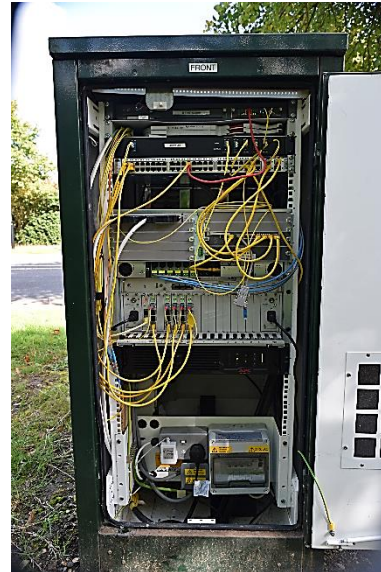
- **A-TYPE**
- **C-TYPE**
- **D-TYPE**
- **S-TYPE**

“S-TYPE” encompasses the range of enclosures designed for sensitive active equipment such as computer, communications, DVR, CCTV, surveillance equipment, switches, routers & telecoms etc.

In many cases this includes power rectification and battery back-up. The enclosures are normally multi chambered and enables the differing facilities to be separated for security/specific thermal requirements i.e. a separate battery chamber requiring lower operating temperature than active equipment chamber.

The S-TYPE outdoor cabinet provides multiple layer construction and offers a higher level of environmental management and alarm systems as the “A-TYP” cabinet .

Typically the cabinet will be environmentally controlled and managed by using either forced ambient air via fans or our optional full air conditioning, air-to-air heat exchangers or Peltier chiller device(s). Most have remote alarming and more customers are electing to use remote locking facilities to control third party access to the enclosure.



#### FEATURES:

- Electronic Remote Access Locks
- Sensors (Thermal, humidity, alarms etc.) and Alarm via SNMP and web based application.
- Up-to IP65 sealing
- Thermal solution matched to equipment requirements
- Main Power Distribution and RCD Power sockets provide a tailored solution ready for deployment.

#### THERMAL:

- Multiple cooling solutions available including Forced Ambient Air Fan Cooling, Air Conditioning Unit, Heat Exchanger Unit, Peltier Chiller/Heater Device
- Roof, Door or Side Mount cooling devices sized by Cannon Thermal Engineering Team to provide the best solution for current and future requirements.



#### FEATURES:

- Tested and proven Multi-Point locking system.
- Maximum open access area via anti-vandal Stainless Steel hinge system.
- LED lighting within cabinet available.
- Fibre/Copper cable management, equipment support shelves and brackets available as standard options.
- Base mounting options including plinth & root
- Cable entry options available via base, roof, side panel.



Due to the type of equipment housed within the enclosure i.e. medium heat dissipating communications equipment. The heat being dissipated from the equipment is often 500W to 2kW. The equipment demands high standards of cleanliness meaning that IP ratings of IP65 are common.

S-TYPE active communications equipment enclosure's are designed to provide a secure and reliable housing with single or multi-chamber options to house all types of standard 19"/ETSI equipment & non rack mounting protocol products.

The enclosure is constructed with a dual skin; this secondary skin acts as an insulator to reduce the effect of solar gain radiating into the equipment chamber and are fully environmentally controlled, dependant on the heat dissipation figures and the required  $\Delta t$ . Cannon product specialists are able to advise whether to install either AC or DC air conditioning systems, air-to-air heat exchangers or force fan convection.

Our New Milton test facility can provide thermal testing to our enclosures along with written reports. Thermal loads can be either simulated or for effective heat analysis active customer equipment can be configured within the enclosure. The ambient air temperature can be maintained to within  $\pm 1^\circ\text{C}$  of that specified.

Solar gain can also be applied to the surface of the enclosure to simulate the effect upon the internal equipment when subjected to long periods of sun light in different locations and upon various surface treatments.



#### FEATURES:

- Multi-door access options providing access for Front, Rear or Sides.
- Side door access to vertically mounted 19"/ETSI rails provide a space saving solution where the depth of cabinet is restricted.
- Easy access, high volume door mounted filters provide the right amount of air volume for equipment cooling.

#### CHAMBER SEPERATION:

- Can provide additional security via different key number/type especially beneficial when separating equipment from distribution / power side.
- Provides the ability to cool different chambers at different temperatures saving product and operating costs e.g. batteries/UPS requiring chiller cooling compared to active equipment utilising ambient air free cooling.



The enclosure can be configured with a number of chambers which can be used to separate the different technologies. Battery chambers are normally separated from the main active equipment to ensure that any hydrogen given off during recharge periods is vented to atmosphere without any risk of it coming into contact with equipment. It is also easier to maintain the temperature recommended by the battery manufacturer in a separate chamber.

The chamber can be manufactured to suit various manufacturers' batteries, size and numbers; shelves can be fixed or telescopic and designed to withstand loads of 500-kilos. The cabinets can be designed to accept both shock and vibration, high EMC emission protection and to IP65. Cannon offers a variety of lock options from simple cam through to full remote activation.

Cannon has been manufacturing enclosures for over four decades and has supplied many enclosures for both track-side and road side applications. Our S-TYPE enclosures have been used in all extremes of temperature from areas such as Alaska to Nevada, Rural and business broadband to MOD naval applications for surveillance systems. We have been a major supplier to the various alliances working for the rail and telecoms industry etc. We are confident that what ever your requirements Cannon will be able to provide a solution to your enclosure needs.



#### FEATURES:

- Electronic Remote Access Locks
- Electronic Key Pads / RFID / Bio-Metrics
- Sensors (Thermal, humidity, alarms etc.) and Display/Alarm via SNMP and web based application
- Up-to IP65 sealing
- Thermal solution matched to equipment requirements
- Multiple chambers providing compartments to suit specific equipment mounting and thermal requirements.

#### BENEFITS:

- Proven Designs both in test lab and in field and street-side operation.
- Thermal Solutions sized to provide energy efficient and operations cost savings.
- IP65 testing completed at an independent test house.
- Modular designs that can be modified to suit customer specific requirements



Chamber capable of maintaining air temperatures above the local ambient up-to a maximum 60°C with a solar gain of 1.1kW/m<sup>2</sup>



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Additional Products available from Cannon Technologies Group :

- Modular Data Centres
- Cannon Data Campus
- Cannon GLOBE TROTTER
- Cannon GMDC
- Cannon Mini/Micro DC
- Ruggedized DC Cases
- IT Infrastructure
- 19" Server Cabinets
- Patch Frames
- Free Form Containment
- Cold/Hot Aisle Containment
- Air Management
- Cooling Solutions
- UPS & Power
- Techni-Cabins
- Mobile-Cell & Mast Stations
- Outdoor Cabinets & Enclosures

**CANNON TECHNOLOGIES LTD**

UK HEAD OFFICE:  
STEM LANE, NEW MILTON  
HAMPSHIRE. BH25 5NU. UK

T: +44 (0) 1425 632600

E: SALES@CANNONTECH.CO.UK

W: CANNONTECH.CO.UK