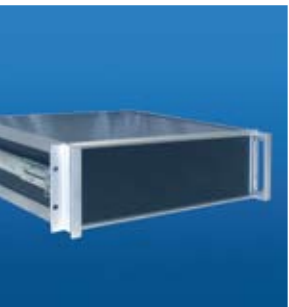


## DCU Multiplex Data Collection Unit

**DESCRIPTION** – The Data Collection Unit (DCU) utilizes a software controlled I/O communication protocol to provide a very flexible design for multiplexing data from remote sensors. The information from the sensors can be transmitted over copper or fiber. It was designed to be used on perimeter systems which typically involve long distances. The DCU eliminates lengthy and cumbersome 'home-run' relay wiring from sensors and reports system activity to virtually any type of control equipment.

The DCU continuously analyzes the activity happening in all zones at the same time for maximum information to use in making an alarm decision. This is done rather than relying on information from a single sensor in one specific location. This feature enables the DCU to optimize the processing for each signal and to reduce the effects of the environment on the system.



### Features

- Multiplexes field sensors on copper or fiber
- Easily integrated with all controls
- Variety of communication outputs
- Contains Environmentally Derived Adaptive Processing Techniques (EDAPT) - smart global processing
- Rack or wall-mounted
- Long term non-volatile memory available

### Markets

- Correctional facilities
- Airports
- Borders
- Seaports
- Refineries
- Communication centers
- Special operations

# DCU

## Multiplex Data Collection Unit

### How it works

The proprietary multiplex protocol (CEnDE) is embedded in every DCU. It provides 20 zones of copper based multiplexing in every DCU unit. In addition, two more multiplex loop cards can be added in any combination of communication protocol (details below). The DCU multiplexes the data from the sensors on either a twisted, shielded pair or on a redundant fiber ring. An additional pair (copper based) provides power to the sensors or transponders. Audio output from each zone is also an option.



Combining software controlled protocols over a total of three available loop cards provides a wide range of sensor communication options which include: RS-485 or FPS-2-2M (all of which are copper based) and the new fiber based FPS-5 system.

Several configurations are possible. Consult factory for design options.

### Fiber communication

The fiber communication version of the DCU communicates via an intelligent (two data paths) bus that only transmits "good" data at a rate of 2 Mbps. The data transmission is fully supervised and will show the location of a cut fiber. The fiber optic capability provides very high Electromagnetic Interference / Radio Frequency Interference (EMI / RFI) immunity, particularly in long outdoor cable runs. Each fiber loop card can communicate with 60 zones of perimeter security rather than 20 as with

copper. This is due to the faster polling rate achievable on fiber versus copper.

### Working with sensors and other equipment

The DCU works directly with the FPS-2-2M/AP, Fence Protection System (FPS) processors, FPS-5 fiber based communication and all associated independent transponders, i.e. SAT and SAFT. SATs and SAFTs are designed to incorporate other types of sensors having relay outputs for alarms into the multiplexed system. Each SAT (copper communication) and SAFT (fiber communication) will report two zones of equipment. The MPS-4100 bi-static microwave with built-in transponder can also communicate directly with the DCU.

### Integration with control equipment

The DCU can be integrated with virtually any control equipment by means of a variety of output methods. These include:

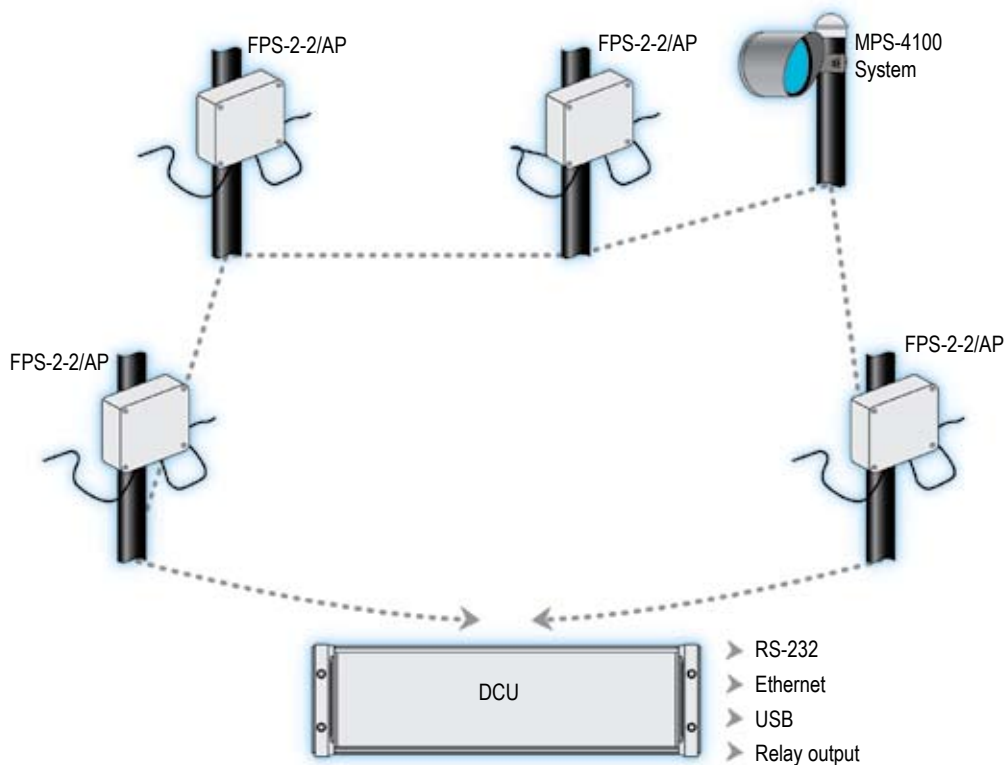
- RS-232 serial port
- Ethernet connection
- USB port
- Relay interface



## DCU Configurations

Part Number	Zones			Multiplexing		Communication				Power Transformer	Mounting	
	20	40	60	Copper	Fiber	USB	Ethernet	RS-232	Relay*		19" Rack	Wall
02-191007	X			X		X	X	X		X	X	
02-191010	X			X		X	X	X		X		X
02-191008		X		X		X	X	X		X	X	
02-191011		X		X		X	X	X		X		X
02-191009			X	X		X	X	X		X	X	
02-191012			X	X		X	X	X		X		X
02-191001	X			X		X	X	X	X	X	X	
02-191004	X			X		X	X	X	X	X		X
02-191002		X		X		X	X	X	X	X	X	
02-191005		X		X		X	X	X	X	X		X
02-191003			X	X		X	X	X	X	X	X	
02-191006			X	X		X	X	X	X	X		X
02-191013			X		X	X	X	X		X	X	
02-191014			X		X	X	X	X		X		X
02-191015	X				X	X	X	X	X	X	X	
02-191016	X				X	X	X	X	X	X		X
02-191019		X			X	X	X	X	X	X	X	
02-191020		X			X	X	X	X	X	X		X
02-191021			X		X	X	X	X	X	X	X	
02-191022			X		X	X	X	X	X	X		X

\* Relay Note: Must use one for alarm and one for tamper for each zone.



# Technical Specifications

## STANDARD SPECIFICATIONS

### POWER REQUIREMENTS:

- 24 VAC from transformer provided
- Standby power (24 V - 26 Amp hours from battery)

**CIRCUIT COMPONENTS:** 100% solid state with plug-in circuit boards

**MOUNTING:** 48 cm (19 in.) Rack mount or wall mount

**EDAPT PROCESSING:** Selectable; individual, all zones or no zones

**COMMUNICATION BUS - COPPER:** One #18 AWG twisted shielded pair for up to 6.1 km (20,000 ft.) per 20 zone loop card

**COMMUNICATION BUS CONFIGURATION - COPPER:** Class A or B

**COMMUNICATION BUS - FIBER:** One duplex multi-mode fiber out and one in. Supports 30 dual zone processors or SAFTs per loop card, up to 3 km (9843 ft.) apart (total of 60 zones)

**COMMUNICATION BUS CONFIGURATION - FIBER:** Redundant (self healing) loop

**OPERATING TEMPERATURE:** 0 to 50 °C (32 °F to 120 °F)

**RACK MOUNT SIZE:** 48.3 W x 13.3 H x 38.1 cm D (19 W x 5.25 H x 15 in. D)

**WALL MOUNT SIZE:** 47 W x 36 H x 10.5 cm D (18.5 x 14.25 H x 4.125 in. D)

**WEIGHT:** 5.4 kg (12 lbs.)

## OUTPUTS

**RELAYS:** Two per zone, alarm and tamper, NO or NC jumper selectable, 28 VDC, 1 A

**SERIAL:** RS-232 port (DB-9), USB 2.0

**NETWORK:** Ethernet port

**LOCAL BUS:** DB-25

PART	DESCRIPTION
02-191007	DCU, 20 zones, Copper multiplexed communications, USB, Ethernet or RS-232 outputs, Rackmount and includes manual
02-191010	DCU, 20 zones, Copper multiplexed communications, USB, Ethernet or RS-232 outputs, Wall-mount and includes manual
02-191008	DCU, 40 zones, Copper multiplexed communications, USB, Ethernet or RS-232 outputs, Rackmount and includes manual
02-191011	DCU, 40 zones, Copper multiplexed communications, USB, Ethernet or RS-232 outputs, Wall-mount and includes manual
02-191009	DCU, 60 zones, Copper multiplexed communications, USB, Ethernet or RS-232 outputs, Rackmount and includes manual
02-191012	DCU, 60 zones, Copper multiplexed communications, USB, Ethernet or RS-232 outputs, Wall-mount and includes manual
02-191001	DCU, 20 zones, Copper multiplexed communications, Supports up to 48 relay outputs (sold separately), Rackmount and includes manual
02-191004	DCU, 20 zones, Copper multiplexed communications, Supports up to 48 relay outputs (sold separately), Wall-mount and includes manual
02-191002	DCU, 40 zones, Copper multiplexed communications, Supports up to 96 relay outputs (sold separately), Rackmount and includes manual
02-191005	DCU, 40 zones, Copper multiplexed communications, Supports up to 96 relay outputs (sold separately), Wall-mount and includes manual
02-191003	DCU, 60 zones, Copper multiplexed communications, Supports up to 144 relay outputs (sold separately), Rackmount and includes manual
02-191006	DCU, 60 zones, Copper multiplexed communications, Supports up to 144 relay outputs (sold separately), Wall-mount and includes manual
02-191013	DCU, 60 zones, Fiber optic multiplexed communications, USB, Ethernet or RS-232 outputs, Rackmount and includes manual
02-191014	DCU, 60 zones, Fiber optic multiplexed communications, USB, Ethernet or RS-232 outputs, Wall-mount and includes manual
02-191015	DCU, 20 zones, Fiber optic multiplexed communications, Supports up to 48 relay outputs (sold separately), Rackmount and includes manual
02-191016	DCU, 20 zones, Fiber optic multiplexed communications, Supports up to 48 relay outputs (sold separately), Wall-mount and includes manual
02-191019	DCU, 40 zones, Fiber optic multiplexed communications, Supports up to 96 relay outputs (sold separately), Rackmount and includes manual
02-191020	DCU, 40 zones, Fiber optic multiplexed communications, Supports up to 96 relay outputs (sold separately), Wall-mount and includes manual
02-191021	DCU, 60 zones, Fiber optic multiplexed communications, Supports up to 144 relay outputs (sold separately), Rackmount and includes manual
02-191022	DCU, 60 zones, Fiber optic multiplexed communications, Supports up to 144 relay outputs (sold separately), Wall-mount and includes manual
PLUG-IN RELAY	Plug-in relay for DCU

*Specifications are subject to change without prior notice.*



ISO 9001:2008  
CGSB Registered Certificate 95711  
Canadian manufacturing facility  
Version: DAS-J9/A-IN-R4-E-03/11

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