# DCS-210

*19” Rackmount Data Collection System*

## Features

- Intel Atom® x5-E3930 processor
- 8x Digital I/O with 2kVrms isolation, 4x 2A relays in DO
- 3x M12 GbE, 1x RJ-45 GbE, 2x isolated RS232/422/485, 2x USB and one lockable HDMI port
- MVB supported by PC/104 or PCI Express mini module
- Up to 3x PCI Express mini slots with one USIM card slot each
- Storage: up to 64GB eMMC 5.0, 1x 2.5” SATA drive bay (optional CFast) and onboard M.2 slot

## Specifications

- **System**

### Processor
Intel Atom® x5-E3930 1.6GHz

### Memory
1x SODIMM socket, 4GB DDR3L 1600MHz (up to 8GB)

### Storage
eMMC 5.0 32GB (default), 64GB (optional)
1x hot swappable 2.5” SSD or accessible CFast slot on front panel (optional)
1x M.2 slot for SATA storage only (2280 type) supports “M key”

- **External I/O Interfaces**

### Ethernet
4x GbE (Intel® I210IT), 1x RJ-45 and 3x M12, 2kVrms isolation
Speed and Activity LEDs on front panel

### Serial Port
2x RS-232/422/485 programmable, DB-9 connector on front panel, 1kVrms isolation, supports auto flow

### USB 2.0
1x USB 2.0, Type A connector on front panel, 1000mA

### USB 3.0
1x USB 3.0, Type A connector on front panel, 1600mA

### Graphics Output
1x HDMI (lockable)

### Digital Input
8x isolated digital input channels
2.5kVrms optical isolation
Input voltage up to 137.5V (nominal voltage 24/36/72/110V)
8x status LEDs
Reserved redundant design by BOM option
Connector Type: D-sub on front panel

### Digital Output
8x isolated digital output channels and 4 independently controlled internal integrated relays
2.5kVrms optical isolation
NC/NO contacts can be connected to outsider connector
Working voltage from 16.8V to 137.5V (nominal voltage 24/36/72/110V)
Relay working current level 2A DC maximum, short-term over-load capability
8x status LEDs
Reserved read back design by BOM option
D-sub connector on front panel

### Antennas
Four antenna connector cutouts reserved
Three RP-SMA connectors for cellular and Wi-Fi modules
One SMA connector for GNSS (optional)

### CAN/MVB
Two DB-9 connector cutouts on front panel reserved for MVB or CAN modules

### GNSS
Supported by Mini PCIe module with one SMA connector reserved

### Audio
1x M8 connector audio port on front panel

- **Internal I/O**

### Mini PCIe
2x Mini PCIe slots (PCIe + USB 2.0) + 1x Mini PCIe slot (USB 3.0), compliant to PCIe mini card spec v1.2; both support Full/Half size modules, w/ USIM for each slot
Two SIM slots are externally accessible with protective covers, support 3G/4G/GPS/CAN/MVB function Mini PCIe modules

### PC/104
One slot for PC/104 MVB module (flexible riser card design)

### USIM
3x SIM slots, one onboard, two externally accessible via front panel with protective cover

### USB
1x wafer connector reserved

# Specifications

## Power

### DC Input
Input range: 16.8V to 154VDC, 2kVrms isolation
Max. input current: 0.5A @ 137.5VDC
A-coded M12 connector with 5 pins, cable type

### Power/Fail Reset
System reset & power button, 1x power LED

### Power Consumption
20W typical

### Backup
Industrial grade coin cell battery, supports RTC

## Notifications

### Thermal Sensor
1x CPU Tj, 2x thermal sensors (located on PCBA top & bottom sides)

### LED Indicators
Power (on/off)
Storage activity
Ethernet activity/speed
Serial port activity
Overtemp warning
1x WDT, 2x user defined
All LEDs on front panel

## Mechanical

### Dimensions
19" 1.5U rack, 445mm x 300mm x 65.5mm (W x D x H) (1U available by request)

### Conformal Coating
Yes

### IP Rating
IP60 (horizontal), IP61 (vertical)

### Mounting
Rack mount (mounting kit included)

### Weight
TBD

## Software

### BIOS
AMI EFI BIOS

### SEMA
ADLINK SEMA 3.5 for WDT, hardware monitor, and fail-safe dual BIOS

### Operating System
CentOS
Linux Ubuntu 16.04 LTS, QT compatible, 64 bit

## Environmental

### Operating Temperature
-40°C to +70°C (OT4)

### Storage Temperature
-55°C to +85°C

### Altitude
EN50125-1:2014

### Operating Humidity
10-90% RH operating, non-condensing; 5-95% RH storage at 40°C (EN 60068-2-78, EN 50155)

### Vibration
EN50155 standard, method EN61373:2010, Category 1 Class B

### Shock
EN50155 standard, method EN61373:2010, Category 1 Class B

### Safety
EN50153
EN50124-1

### Fire Protection
EN45545-2:2013+A1:2015

### EMC
EN50155:2017 standard
EN50121-3-2:2015

## Mechanical Drawing

(Unit: mm)