

DACS Module

Revolutionize Your Test Cell Data Acquisition and Control

Driven by our passion for constantly improving test cell data access, Sierra-CP introduces our third generation I/O system.

Now configure your core system with our I/O modules over a high-speed field-bus network and deploy additional DACS modules as required. Need to change your channel mix? Just swap out the internal plug-in modules to reconfigure for the ones you need.



Optimize test sequencing, data logging, control and user interface requirements when you couple your network with our advanced CADET Automation System.

HIGH QUALITY METAL CHASSIS

- ▶ Ruggedized and sealed to IP67
- ▶ M12, push-pull circular, TC, XLR and BNC port connectors
- ▶ Custom legends
- ▶ Machine and panel mounted variants

HIGH CHANNEL DENSITY

- ▶ 6 internal plug in Module channel interface slots
- ▶ 12 galvanically isolated multichannel ports
- ▶ Up to two input and one output channels per port
- ▶ 24 universal thermocouple inputs with integrated cold junction
- ▶ Non multiplexed data acquisition
- ▶ Software support for up to 2000 channels

HIGH SPEED DETERMINISTIC FIELDBUS

- ▶ Real time EtherCAT protocols
- ▶ Configurable PDO mapping
- ▶ Control rates up to 4 kHz across the fieldbus network
- ▶ Distributed clock synchronization

DATA STREAMING NETWORK

- ▶ 1 Gbps network port on panel mount variant
- ▶ Up to 100 kHz sampling simultaneously on all channels
- ▶ Time aligned data

WIFI

- ▶ Browser based configuration, calibration and service
- ▶ Built in HTTP server for mobile device access

INTEGRATED HARDWARE PROTECTION SYSTEM

- ▶ Configurable non-volatile logic hardware with 1 ms start-up
- ▶ Advanced trip functionality on all measured quantities
- ▶ Global current loop interlock signalling connectivity

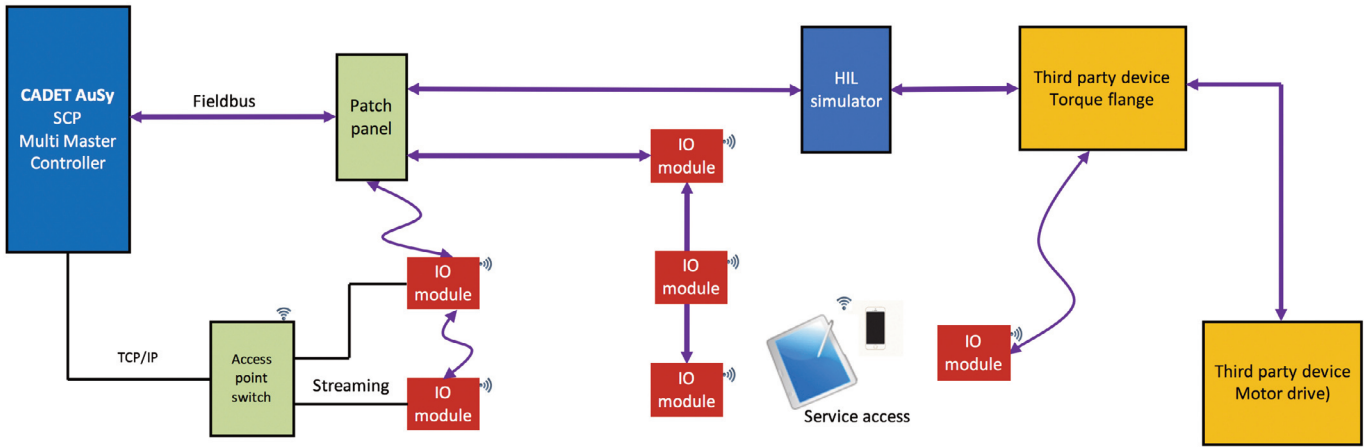
24 VDC POWERED

- ▶ Separate System and Peripheral power supplies in same loom
- ▶ Daisy chain power loom connectivity

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Sierra-CP Engineering, Ltd. is a member of the TASI group of companies.



DACS Module Integration with CADET

ANALOG INPUT CHANNEL PORT / Plug-in options

Type	±10 V, 4-20 mA, Universal thermocouple, RTD, Thermistor, Bridge
Excitation output	+15 VDC, 10 VDC and 5 VDC @50 mA
Resolution	24-bit
Accuracy	0.01 % typical
Sample rate	Up to 100 kHz
Conversion method	Sigma-Delta, SAR options
Functions	Linearization, tare, digital filters, averaging, min/max, trip with output to HPS
Peripheral power supply	10 to 30 VDC @ 1 A with electronic fuse

ANALOG OUTPUT CHANNEL PORT / Plug-in options

Type	±10 V, 4-20 mA
Excitation output	+15 VDC, 10 VDC and 5 VDC @50 mA
Resolution	16-bit
Accuracy	0.02 % typical
Update rate	Up to 100 kHz
Peripheral power supply	10 to 30 VDC @ 1 A with electronic fuse

DIGITAL CHANNEL PORT / Plug-in options

Signals	8 input or 8 output at each connector port (up to 96 per IO module)
Interface	Open collector outputs and optically isolated inputs @ 10 to 30 VDC
Functions	Trip and interlock with Hardware Protection System

PULSE COUNTING CHANNEL PORT / Plug-in options

Type	Quadrature, PWM, counting, time measurement, SIN/COS
Interface	HTL, TTL, RS422, Pulse pickup
Excitation output	+15 VDC and 5 VDC @200 mA
Peripheral power supply	10 to 30 VDC @ 1 A with electronic fuse
Functions	Trip and interlock with Hardware Protection System

COMMS CHANNEL PORT / Plug-in options

Type	CAN, Serial, OBD and LIN
Interface	RS232, RS422, RS485
Excitation output	5 VDC @50 mA

Peripheral power supply	10 to 30 VDC @ 1 A with electronic fuse
Functions	Trip and interlock with Hardware Protection System

MODULE COMMUNICATIONS

Fieldbus	100 Mbps Ethernet using EtherCAT protocols. M12 4-pole D-coded IN and OUT ports for daisy chain
Streaming network	1 Gbps Ethernet using TCP/IP protocols M12 8-pole X-coded port
WIFI	IEEE 802.11 b/g/n HTTP server and TCP/IP protocols
Auxiliary Interlock	Five separate current loop circuits M12 12-pole A-coded IN and OUT ports for daisy chain

MODULE POWER SUPPLY

System supply	24 VDC ±10 % @ 1 A
Peripheral supply	10 V to 30 VDC @ 1 A used to power attached devices
Protection	Electronic fuse, overvoltage and reverse voltage
Connectivity	M12 5-pole L-coded IN and OUT ports for daisy chain, 5th pin earthing connection

MODULE ENVIRONMENTAL

Operating temperature	-40 °C to +50 °C
Operating relative humidity	0 % to 100 %
Operating pressure	800 mbar to 1100 mbar

MODULE MECHANICAL

Machine mounting	Panel mounting
Material	Aluminium
Size (W x H x D)	120 mm x 133 mm x 220 mm x 55 mm
Weight	2 kg
Ingress protection	IP67
Channel port connectors	M12 A-coded, Quick connect push pull circular, XLR, Isolated BNC Universal thermocouple with integrated cold junction RTD and colour keyed cap