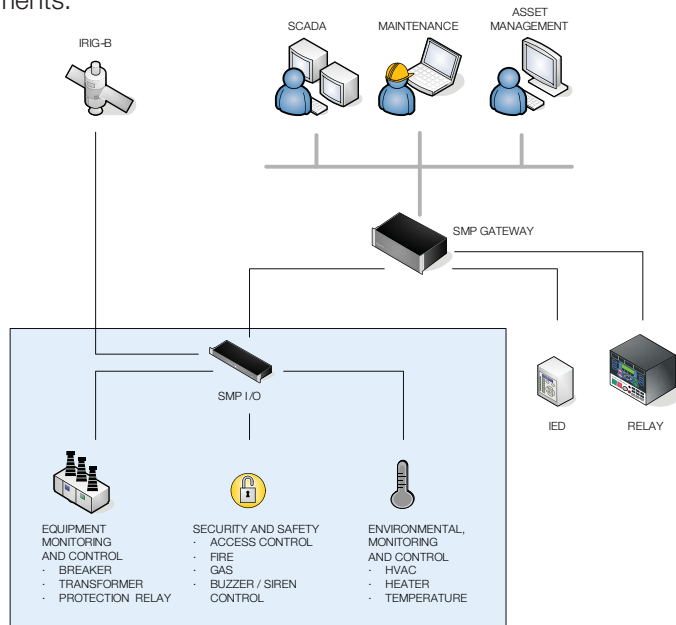


SMP I/O For Today's Substations



Today's substation automation projects require RTUs that feature seamless network integration and minimized cabling. The **Cybectec SMP I/O** helps trim down costs and save time by reducing both required wiring and configuration.

The **SMP I/O**, which is available in rack-mount or wall-mount format, is a scalable, distributed I/O module perfectly adapted to substation automation requirements.



Substation Grade

- Ensures data integrity between the data point and the control center
- Installs directly in relay racks or fixed to any type of surface for distributed, cable-saving architecture
- Monitors and controls up to 34 points, including analog values.
- Can operate relays directly – high load carrying capability reduces the need for interposing relays
- Meets IEEE and IEC requirements for vibration, electrical surges, fast transients, and extreme temperature ranges
- Supports 1ms transition time tagging

Seamless Networking

- Works standalone or with an SMP Gateway
- Communicates via the DNP3 protocol over RS-485 or TCP/IP
- Supports IRIG-B synchronization

Designed for Growth

- I/O cards can be added locally
- Scalable for more I/O capacity
- Minimized configuration when used with SMP Gateway
- Helps trim down costs and save time by reducing both required wiring and configuration

Reliable

- Ensures safe operation with the local/remote control switch
- Supports select-before-operate (SBO) or direct execute outputs
- Uses optically isolated inputs with built-in error detection
- Outputs are protected against single component failure

COOPER Power Systems

SMP I/O

Technical Specifications

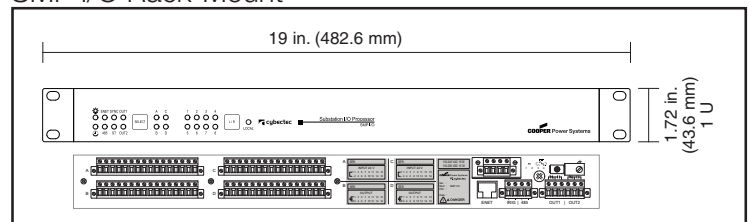
General Features																					
Designed to be used with SMP Gateway or stand-alone																					
Can simultaneously operate up to 18 relays																					
Local/Remote switch																					
Front panel status LEDs																					
Watchdog timer can be mapped to built-in output relay																					
Power supply monitoring																					
Windows-based configuration tools																					
Redundancy																					
Can connect to redundant SMP Gateways																					
No transitions lost during failover																					
Time Synchronization																					
Demodulated IRIG-B input for 1 ms accuracy																					
DNP3 protocol synchronization																					
Available Configurations																					
2 built-in Form-C relay contacts (NC and NO)																					
Configurable outputs: Watchdog relay Local/Remote User-defined																					
Up to 4 cards in one SMP I/O Up to 4 binary input cards Up to 2 binary output cards Up to 3 analog cards																					
Binary Input Ratings																					
<table border="1"> <thead> <tr> <th>Range On (VDC)</th> <th>Off (VDC)</th> <th></th> </tr> </thead> <tbody> <tr> <td>24 VDC</td> <td>18.3 - 30</td> <td>< 5.5</td> </tr> <tr> <td>48 VDC</td> <td>37.5 - 60</td> <td>< 10.5</td> </tr> <tr> <td>110 VDC</td> <td>82.5 - 137.5</td> <td>< 21.3</td> </tr> <tr> <td>125 VDC</td> <td>91.5 - 156</td> <td>< 23.5</td> </tr> <tr> <td>220 VDC</td> <td>169.5 - 275</td> <td>< 42.2</td> </tr> <tr> <td>250 VDC</td> <td>187.5 - 312.5</td> <td>< 46.5</td> </tr> </tbody> </table>	Range On (VDC)	Off (VDC)		24 VDC	18.3 - 30	< 5.5	48 VDC	37.5 - 60	< 10.5	110 VDC	82.5 - 137.5	< 21.3	125 VDC	91.5 - 156	< 23.5	220 VDC	169.5 - 275	< 42.2	250 VDC	187.5 - 312.5	< 46.5
Range On (VDC)	Off (VDC)																				
24 VDC	18.3 - 30	< 5.5																			
48 VDC	37.5 - 60	< 10.5																			
110 VDC	82.5 - 137.5	< 21.3																			
125 VDC	91.5 - 156	< 23.5																			
220 VDC	169.5 - 275	< 42.2																			
250 VDC	187.5 - 312.5	< 46.5																			
Dielectric isolation 3000 VAC / 4000 VDC																					
Binary Output Ratings																					
Make and carry: 30 A as IEEE-C37.90.1989																					
10 A continuous carry at 85°C																					
8 A @ 250 VAC resistive 8 A @ 30 VDC resistive 0.4 A @ 125 VDC resistive 0.2 A @ 150 VDC resistive 1/2 HP @ 125 VAC 1/4 HP @ 250 VAC																					
Dielectric isolation: 2500 VAC / 3500 VDC																					
Analog Input Ratings																					
Input Range: Voltage mode: ± 10V Current mode: ± 4mA																					
Input Impedance: Voltage mode: > 10 Mohms Current mode: 2.5 kohms																					
Resolution: ±0.02% of full scale @ 25°C ±0.0015% per °C of full scale																					
Isolation: Standard model: 1500 VAC / 2100 VDC channel to ground High Isolation model: 1500 VAC / 2100 VDC channel to ground 1500 VAC / 2100 VDC channel to channel																					
CMR @ 50/60Hz: > 90 dB																					

Communications
Serial 1 rear panel RS-485 terminal block 9,600 to 115,200 bps Multidrop capability
Ethernet 1 10/100BASE-TX, or 1 100BASE-FX optional Multimode fiber LC connector 1300 nm Up to 2 km
Security
Built-in firewall, can be tied to a specific SMP Gateway or master device
Input Module
8 isolated status inputs Each input electrically isolated Can be wired to a common negative Front panel LED indications Transition time tagging with 1 ms resolution Advanced two-phase debounce filtering Pulse and transition accumulators Optional error detection circuit for each input
Output Module
8 NO form A relay outputs Supported DNP3 modes Select-Before-Operate (SBO) Direct Operate Available output functions Trip-close pair Latch Pulse Pulse pairing Relay auxiliary contact integrity scan every 1 ms for error detection Protection against single component failure
Analog Module
8 Isolated DC analog input Factory calibrated Configurable voltage or current mode Min/Max values recording for each input Alarm/Warning capability
Standards Compliance
Protective Relay Standards ¹ IEEE C37.90 IEC 60255 ¹ See datasheet for more details EMI Immunity Type Tests & Specifications IEC-61850-3 IEEE-1613
Environmental
Operating and storage temperature: Rack-mount -40°C to +80°C (-40°F to +176°F) Wall-Mount -40°C to +75°C (-40°F to +167°F) Humidity: 5 to 95%, non-condensing
Protocols
DNP3, serial or TCP/IP

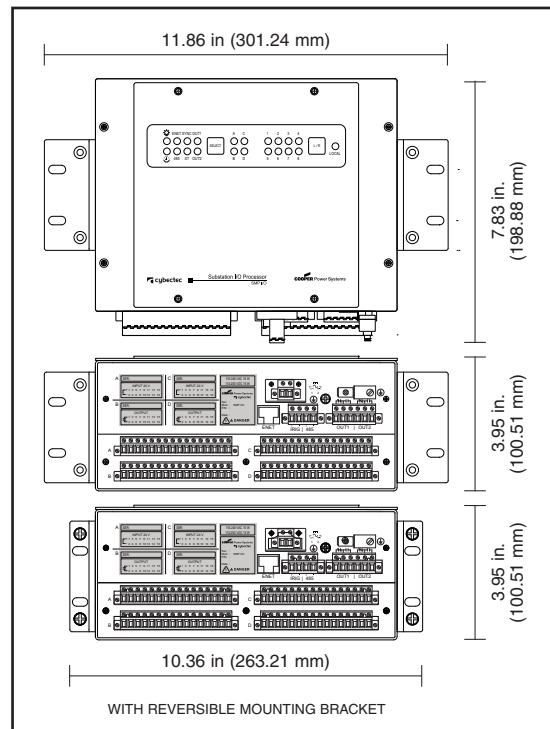
Electrical
Power supply options 24-48 VDC 100-250VDC / 100-240VAC Consumption max. 15 Watts Terminal block connector
Life-time built-in battery
Warranty
5-Year Limited Warranty

Mechanical
Rack-mount 1.72" H x 19" W x 8" L 43.6 mm H 482.6 mm W x 203 mm L 2.3 kg (5 lbs)
Wall-Mount 4" H x 11.9" W x 6.85" L 101 mm H 302 mm W x 174 mm L 2.5 kg (5.5 lbs)
Removable I/O connectors 300 V/15 A maximum 28-12 AWG solid 30-12 AWG stranded

SMP I/O Rack-Mount



SMP I/O Wall-Mount



QUEBEC CITY
730 Commerciale Street, Suite 200
Saint-Jean-Chrysostome, Quebec
Canada G6Z 2C5
Technical Support:
P: +1.418.834.0009
support@cybectec.com

MONTREAL
1290 St. Denis Street, Suite 300
Montreal, Quebec
Canada H2X 3J7
Sales:
P: +1.514.845.6195
sales@cybectec.com