# Callisto<sup>nx</sup>

## Expansion Modules

## FEATURES

- Comprehensive library of expansion modules
- Robust design
- Clear module identification
- Automatic module detection
- Module select indication
- Local indication/diagnostics (via PSU LCD)
- On board watchdog
- Analogues auto calibrated/temperature compensated

An arrangement of sockets on the Callisto<sup>nx</sup> Utility Controller provides flexible expansion from a family of plug-in I/O modules. Virtually unlimited expansion for networked intelligent configurations using plug-in station bus modules.

## 16 Digital Input Module

- Optically isolated inputs
- Inputs configurable on a per point basis
- 1 ms SOE time-tagging
- Support of Form A, B and C accumulators
- Configurable de-bounce and anti-chatter filters
- Bipolar inputs for positive or negative ground supply
- Wide range of input wetting voltages

## 4 or 8 DC Analogue Input Module

- 16 bit resolution
- Accuracy 0.1% FSD (at 25°C)
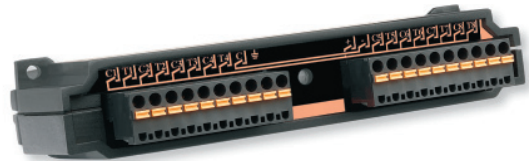- High common mode and differential mode rejection ratio

## 6 DO Flex Output Module

- Configurable relay outputs
- General purpose, secure SBO & double pole switched
- Isolation voltage coil to contact 5kV rms
- Long mechanical life

## 8 T/C DO (low voltage) Output Module

- Welded contact detection
- High density design

## 3 Voltage & Current AC Input Module

- 16 bit resolution
- Accuracy 0.1% FSD (at 25°C)
- 128 samples/cycle (minimum sample rate)
- Input range options: 0-150V rms or 0-325V rms
- Universal 1A or 5A CT ranges
- Isolated 3 CT termination module
- Minimal load burden 69μW (1A or 5A ranges)
- Over-current range up to 50 times nominal input

## 3 or 6 AC Current CT Module

- Universal 1A or 5A ranges
- 16 bit resolution
- Accuracy 0.1% FSD (at 25°C)
- Overcurrent measurement up to 40 times nominal input (1% FSD)
- Isolated 3 CT termination module
- Minimal load burden 69μW (1A or 5A ranges)
- Over-current range up to 50 times nominal input

## Actuator Interface Module

- DI and DO to automate one switch actuator (typically)
- Up to six switches per Utility Controller
- Tri-colour LED indicators for switch position

## Communications Expandability

### 4 RS232/485 Serial Module

- Isolated Ports
- RJ45 (RS232) / terminal block presentation (RS485)
- TX/RX indications
- 15kV ESD protection

### 4 Fibre Optic Serial Port Module

- 820nm multimode operation
- ST2 connectors
- 4 TX/RX (pairs) with indication
- Typical distance 1500m (50/125µm) and 2800m (62.5/125µm) glass fibre

### 10/100Base–T(X) Station Bus Module

- 2 ports
- Supports single, dual and resilient LAN arrangements
- Distance: up to 100m

### 10/100Base–T(X) Station Bus plus Process Bus Module

- 2+2 ports
- Distance up to 100m

### 100 Base FX Station Bus Module

- 2 ports
- SC connector
- Supports single, dual and resilient LAN arrangements
- 1300nm multimode operation
- Typical distance up to 2km

### 100 Base FX Station Bus plus Process Bus Module

- 2+2 ports
- SC connector
- Supports single, dual and resilient LAN arrangements
- 1300nm multimode operation
- Typical distance up to 2km

# Ordering Information

## Digital Input Expansion Module

| Product Range | Product Code | Type | Opt 1 | Opt2 | Opt 3 | Options | |
|---|---|---|---|---|---|---|---|
| CX | DI | xxx | xxx | xxx | x | | |
| | | | | | | S | Screwless Terminals |
| | | | | | | T | Screw Terminals |
| | | | | | | B | Barrier-Block Terminals |
| | | | | | | x | Option Not Applicable |
| | | | | | | 012 | 12V DC (nominal) Digital Inputs (Max 18V, On 8V*, Off 5V*) |
| | | | | | | 024 | 24V DC (nominal) Digital Inputs (Max 36V, On 16V*, Off 12V*) |
| | | | | | | 048 | 48V DC (nominal) Digital Inputs (Max 72V, On 30V*, Off 24V*) |
| | | | | | | 110 | 110V DC (nominal) Digital Inputs (Max 170V, On 65V*, Off 50V*) |
| | | | | | | 220 | 220V DC (nominal) Digital Inputs (Max 300V, On 150V*, Off 85V*) |
| | | | | | | S | Standard |
| | | | | | | DI | Digital input expansion module |

*Guaranteed on/off voltages

## Relay Output Expansion Module

| Product Range | Product Code | Type | Opt 1 | Opt2 | Opt 3 | Options | |
|---|---|---|---|---|---|---|---|
| CX | DO | xxx | xxx | xxx | x | | |
| | | | | | | S | Screwless Terminals |
| | | | | | | T | Screw Terminals |
| | | | | | | B | Barrier-Block Terminals |
| | | | | | | x | Option Not Applicable |
| | | | | | | x | Option Not Applicable |
| | | | | | | S | 6 DO Flex Output Module 8A @30VDC; 2000VA; 250VAC max |
| | | | | | | M | 8 T/C DO (low voltage) Output Module 1A 30VDC; 30W/37.5VA; 60VDC max |
| | | | | | | AIM | Actuator Interface Module 8A @30VDC; 2000VA; 250VAC max |
| | | | | | | DO | Digital output expansion module |

## Analogue Input Expansion Module

| Product Range | Product Code | Type | Opt 1 | Opt2 | Opt 3 | Options | | |
|---|---|---|---|---|---|---|---|---|
| CX | AI | xxx | xxx | xxx | x | | | |
| | | | | | | Other | S | Screwless Terminals |
| | | | | | | | T | Screw Terminals |
| | | | | | | | B | Barrier-Block Terminals |
| | | | | | | 3I/6I | x | Option Not Applicable |
| | | | | | | | x | Option Not Applicable |
| | | | | | | 3VI | 150 | 110V AC (nominal) |
| | | | | | | | 325 | 240V AC (nominal) |
| | | | | | | Other | x | Option Not Applicable |
| | | | | | | 3VI | | 3 AC Voltage plus 3 AC Current Inputs (1A/5A) |
| | | | | | | 3I | | 3 AC Current Inputs (1A/5A) |
| | | | | | | 6I | | 6 AC Current Inputs (1A/5A) |
| | | | | | | 4DC | | 4 DC Unipolar or bipolar 0 to+/-5V or 0 to +/-20mA |
| | | | | | | 8DC | | 8 DC Unipolar or bipolar 0 to+/-5V or 0 to +/-20mA |
| | | | | | | AI | | Option Not Applicable |

## Communications Expansion Module

| Product Range | Product Code | Type | Opt 1 | Opt2 | Opt 3 | Options | | |
|---|---|---|---|---|---|---|---|---|
| CX | CE | xxx | xxx | xxx | x | | | |
| | | | | | | | x | Option Not Applicable |
| | | | | | | | x | Option Not Applicable |
| | | | | | | SX | 4CU | 4 RS232/485 Serial Ports |
| | | | | | | | 4FO | 4 FO Serial Ports |
| | | | | | | EX | SCU | 10/100BaseT(X) Station Bus |
| | | | | | | | SFO | 100BaseFX Station Bus |
| | | | | | | | PCU | 10/100BaseT(X) Station Bus plus Process Bus |
| | | | | | | | PFO | 100BaseFX Station Bus plus Process Bus |
| | | | | | | SX | | Serial |
| | | | | | | EX | | Ethernet |
| | | | | | | CE | | Communications expansion module |