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# product catalog

2008

components for industrial, building and home automation
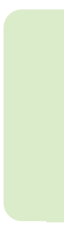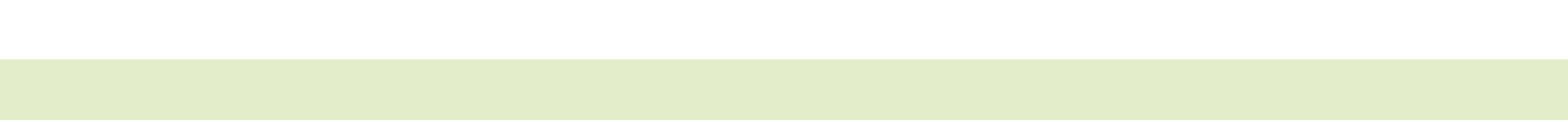
## Publishing info

# Contents

## About the system

## Controllers

## Modules

## Sensors

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# Operator panels

# Accessories

# Power supply units

# Software

# System info

## ● Distributed system

products installed:
in-wall, on-wall, in-ceiling...

products mounted on DIN rail

INSTALLATION BOX

distributed products

\* IEX bus connects all local and distributed modules to the controller.

## ● Intelligent modules

CyBro-2 system
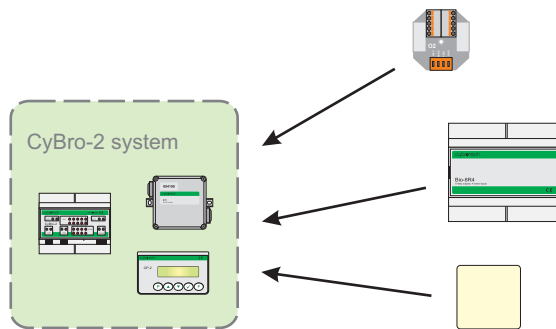
\* No aditional hardware or software configuration of a module is required, before adding it to the automation system.

## ● Unrestricted hardware configuration

\* Up to 31 modules of any type can be connected to each individual controller.

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● Inter-controller communication
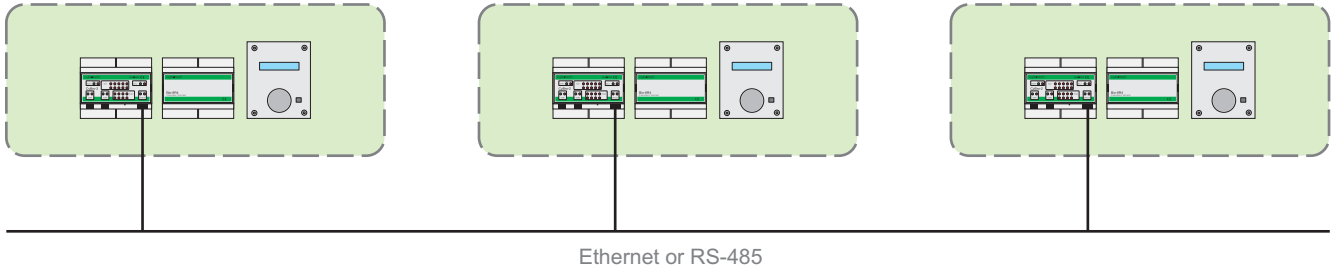


Ethernet or RS-485

\* Several Cybro-2 systems can share information using A-bus protocol, which can run over ethernet or RS-485 network

● Various types of communication to the outside world



INTERNET

ETHERNET

GSM

SMS

SMS

● Fully programmable

```
iif fp(sw_w00) then
   bio00_qx00:=bio00_qx00 xor 1;
end_if;
```
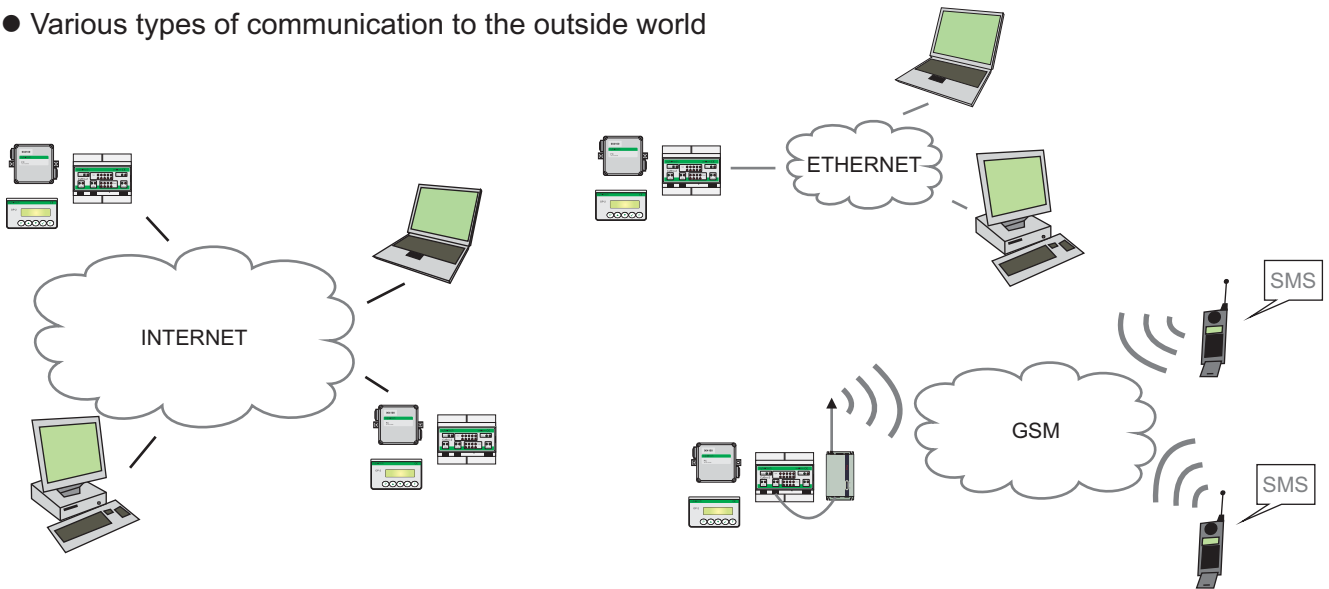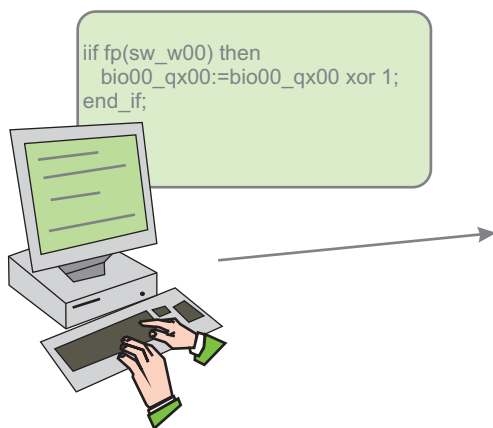
● Pre-programmed automation blocks available
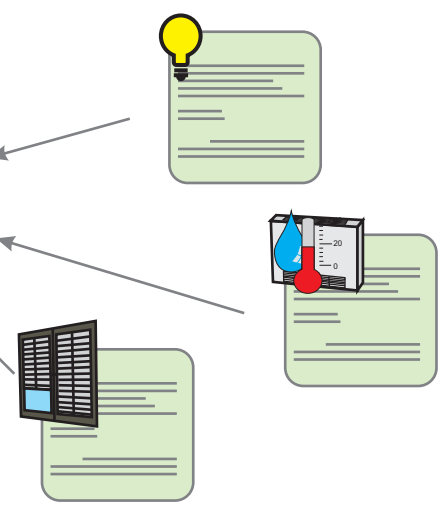
● Freely selectable user interfaces



| | | |
|---|---|---|
| CyBro-2 system | | CyBro-2 system |
| CyBro-2 system | | CyBro-2 system |
| CyBro-2 system | | CyBro-2 system |
| CyBro-2 system | | CyBro-2 system |

LIGHT=ON

web server

INTERNET
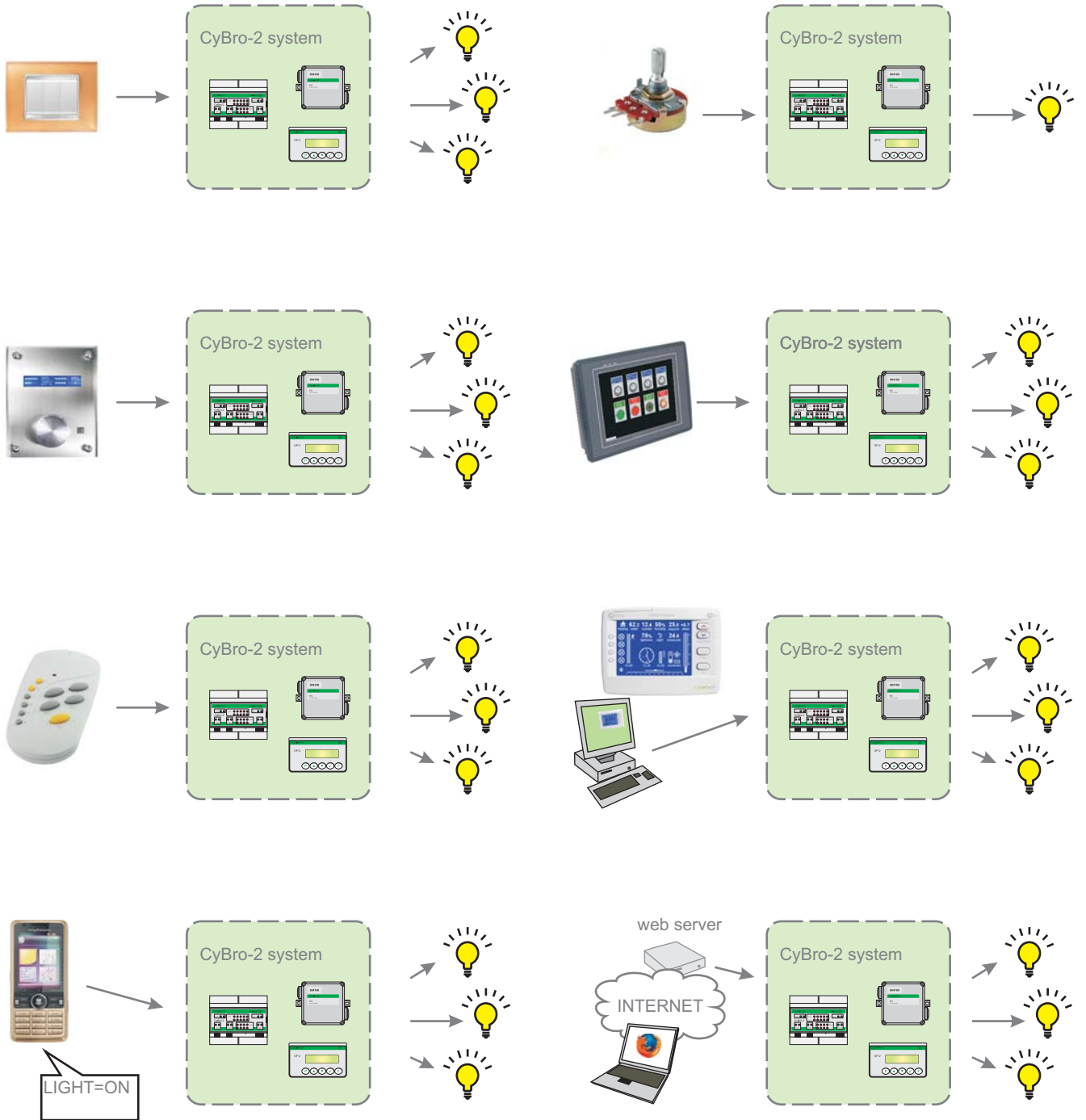
* Each user interface can affect any parameter of the system.

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# Installation

● ON-WALL

● IN-CEILING

● IN-WALL
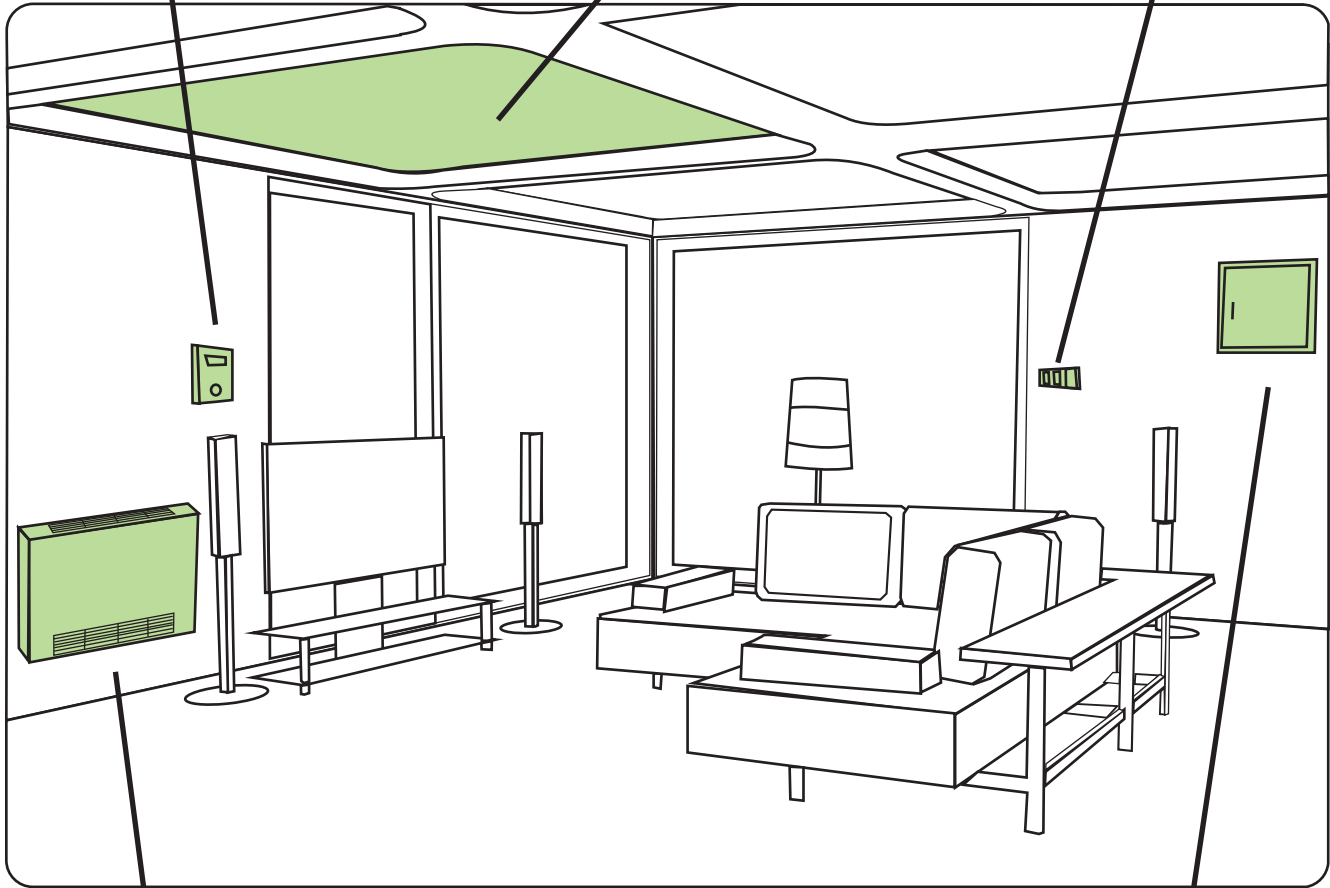
● IN A FAN COIL UNIT

● INSTALLATION BOX

# Success story

## Business offices Primorje
Ajdovščina, Slovenia

Primorje Group is a highly successful business system offering a comprehensive range of construction services. Its expertise, ample experience and overall implementation effectiveness are employed in all types of construction works in order to deliver integral and economical execution of any investment project.

* heating/cooling control
* lighting and shades control
* custom-made SCADA control system

| 20x CyBro-2 | 116x Bio-24R | 36x FC |
| --- | --- | --- |
| 99x LC-D | 70x TS | 73x MS |

## Resident park Lucija,
Lucija, Slovenia

Lucija residential park is a complex of elite condominiums located in Lucija, near Slovenian coast. Each apartment is completely customized and constructed by individual specifications. All apartments are fully monitored and controlled from the reception

* heating/cooling control
* custom-made SCADA control system

| 164x CyBro-2 | 44x Bio-24R | 460x FC |
| --- | --- | --- |
| 128x Touch panels | 447x ES | |

## Regent hotel Esplanade
Zagreb, Croatia

The Regent Esplanade Zagreb is one of the most renowned and (magnificent) hotels in the region. It is famed for its Art Nouveau architecture, amenities that offer true 21st century comfort and convenience, and highest standard of service.

* heating/cooling control
* custom-made SCADA control system

| 4x CyBro-2 | 40x FC |
| --- | --- |
| 4x OP-4 | 4x TS |

CybroTech
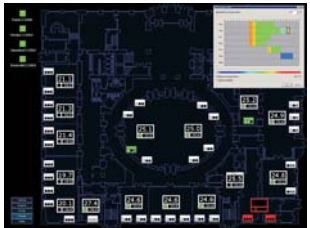
## SpinoWraptor
## Epipack d.o.o., Slovenia

SpinoWraptor is a stretch-film automatic wrapping machine. Semi-custom PLC with integrated graphic LCD delivers superior control performance at an affordable price

* control of stretch wrapper
* integrated graphic user-interface

1x
CyBro-2GM

1x
OP-4

## Energy monitor
## MITOL d.d., Slovenia

MITOL, d.d., offers a wide range of products that draw on over 60 years of tradition, is among the Europe's top adhesives manufacturers. MITOL, d.d. is one of the few adhesive manufacturers to produce their own emulsions.

* system for reducing energy consumption based on Wizcon SCADA control system

7x
CyBro-2

1x
CyBro-1

CNS ZA SPREMLJANJE PORABE ENERGENTOV
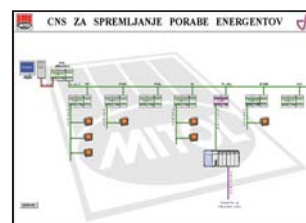
## Manufacturing Execution System,
## POLYCOM d.o.o., Slovenia

POLYCOM is a rapidly growing supplier of advanced plastic parts and molding tools. It employs the CyBro subsystem to ensure automatic output count, on-line monitoring of machine cycle time, consistent monitoring of on-spot standstills / halts, and real-time data processing.

* production monitoring, reporting and system management

1x
CyBro-2

1x
8C

1x
OP-2
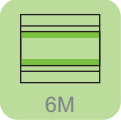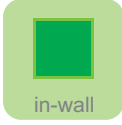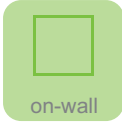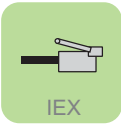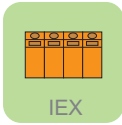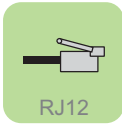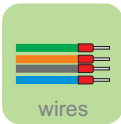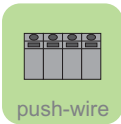
# Pictograms

Digital    Analog

Mounting    | 6M | 10x opto 230V | 4x 0..10V 0..20mA |    Inputs

Connection type    | IEX | 8x relay 16A | 1x 0..10V |    Outputs

## Mounting

| 6M | 35mm DIN rail (6M dimension) |
| in-wall | in-wall square installation box |

| 3M | 35mm DIN rail (3M dimension) |
| on-wall | on-wall mounting |

| 2M | 35mm DIN rail (2M dimension) |
| special | special mounting |

| in-wall | in-wall round installation box |
| on-ceiling | on-ceiling round installation box |

## Connection type

| IEX | Product connected to IEX network via RJ9 connector. |
| IEX | Product connected to IEX network via push-wire terminal. |

| IEX | Product connected to IEX network via wires. |
| RJ12 | Product connected via RJ12 connector. |

| wires | Product connected via wires. |
| push-wire | Product connected via push-wire terminal. |

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## Other pictograms

**PROG** — Controller is programmed using CyPro integrated development tool.

**PROG** — Controller is programmed using the C programming language.

**°C** — Product measures temperature or an external sensor can be connected to the device.
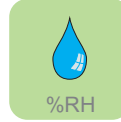
**%RH** — Product measures relative humidity.

**LUX** — Product measures light level or an external light sensor can be connected to the device.

**MD** — Product is a motion detector or an external detector can be connected to the device.

**DSI** — Product can control lighting systems via Digital Signal Interface (DSI) outputs.

**DALI** — Product can control lighting systems via Digital Addressable Lighting Interface (DALI) outputs.

**RS-232** — Product connectable via serial communication port.

**ETH** — Product connectable via ethernet communication port.

**GSM** — Product communicates via GSM network.
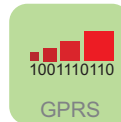
**GPRS** — Product transfers data using General Packet Radio Service (GPRS).

**GPS** — Product is a GPS (Global Positioning System) device.

**IR** — Product is an infra red transsmiter, IR receiver or an external receiver can be connected to the device.

**TOUCH** — Product has a touch sensitive surface.
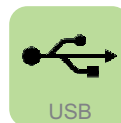
**USB** — Product connects to PC via Universal Serial Bus.

# RC

## Intelligent programmable room controller

**6M**

**IEX**

**CyPro**
**PROG**

RC is a programmable intelligent controller.
Software application loaded into the controller enables the automation system operation without the support of personal computer.
System configuration and application programming is carried out via PC with CyPro development tool installed.
Controller communicates with PC via serial (RS-232) line and Ethernet (Ethernet enabled controllers only).
Easy connection of communication port via RJ9 (serial) and RJ45 (Ethernet) connectors.
LED indicators for controller and communication state.
Unit was designed to be used where all I/O requirements are covered by expansion modules.
Modules are connected to the unit via two IEX connection ports.
A network of intelligent controllers can also be established via A-Bus (RS-485 or over Ethernet).
Unit is powered by an external 24V DC power supply.
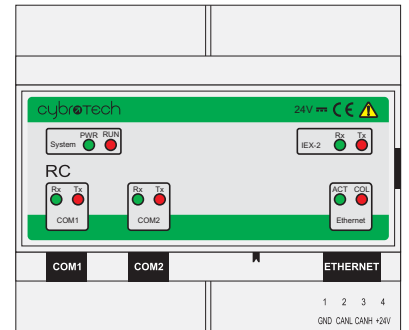
## Technical specifications

| | |
|---|---|
| Internal memory | 64KB FLASH, 64KB RAM, 8KB EEPROM |
| RTC accuracy | typ. ±2 sec/day, max. ±5 sec/day at 25°C |
| Communication | RS-232, Ethernet, IEX |
| Connected modules | max. 31 |
| Power supply | 20..28V DC |
|    Power consumption | 2W |
|    Total power output | 24V DC max. 2A (on RJ9 IEX connector) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x93x58mm |

## Ordering information
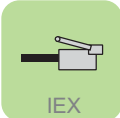
Order Code:
RS232 only                                        RC
RS232 and Ethernet                           RC-E

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# CyBro-2-24

Intelligent programmable controller



**6M** | **10x** opto 24V | **4x** 0..10V 0..20mA

**IEX** | **8x** relay 5A | **1x** 0..10V | **CyPro** PROG

CyBro-2-24 is a programmable intelligent controller.
Software application loaded into the controller enables the automation system operation without the support of personal computer.
System configuration and application programming is carried out via PC with CyPro development tool installed.
Controller communicates with PC via serial (RS-232) line and Ethernet (Ethernet enabled controllers only).
Easy connection of communication port via RJ9 (serial) and RJ45 (Ethernet) connectors.
LED indicators for controller and communication state.
Controller already includes digital and analog input and output points.
Additional expansion modules can be connected to the unit via IEX bus that communicates by using open proprietary protocol (CAN2.0 based).
A network of intelligent controllers can also be established via A-Bus (RS-485 or over Ethernet).
Unit is powered by an external 24V DC power supply.



## Technical specifications

| | |
|---|---|
| Internal memory | 64KB FLASH, 64KB RAM, 8KB EEPROM |
| RTC accuracy | typ. ±2 sec/day, max. ±5 sec/day at 25°C |
| HSC input frequency | max. 10kHz (50% duty cycle), single or dual phase |
| 10 digital inputs | 24V, typ. 7mA, opto-isolated |
| 8 digital outputs | relay contacts, normally open, SPST |
|   Load | max. 5A/250V AC or 5A/30V DC, resistive |
| 4 analog inputs | 0..10V or 0(4)..20mA (2% of FSR at 25°C) |
| 1 analog output | 0..10V (2% of FSR at 25°C) |
| Communication | RS-232, Ethernet, IEX |
| Connected modules | max. 31 |
| Power supply | 20..28V DC |
|   Power consumption | 3,5W |
|   Total power output | 24V DC max. 2A |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:
RS232 only        CYBRO-2-24
RS232 and Ethernet    CYBRO-2-24-E

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# CyBro-2-230

Intelligent programmable controller

| | | |
|---|---|---|
| 6M | 10x opto 24V | 4x 0..10V 0..20mA |
| IEX | 8x relay 5A | 1x 0..10V |
| | | CyPro PROG |

CyBro-2-230 is a high performance, programmable intelligent
System configuration and application programming are carried out via PC with
the installed CyPro development tool.
Controller communicates with PC via serial (RS-232) line and Ethernet
(Ethernet enabled controllers only).
Easy connection of communication port via RJ9 (serial) and RJ45 (Ethernet)
connectors.
LED indicators for controller and communication state.
Controller already includes digital and analog input and output points.
Additional expansion modules can be connected to the unit via IEX bus that
communicates by using open proprietary protocol (CAN2.0 based).
A network of intelligent controllers can also be established via A-Bus (RS-485
or over Ethernet).
Unit is powered directly from the powers mains (110/230V AC).

## Technical specifications

| | |
|---|---|
| Internal memory | 64KB FLASH, 64KB RAM, 8KB EEPROM |
| RTC accuracy | typ. ±2 sec/day, max. ±5 sec/day at 25°C |
| HSC input frequency | max. 10kHz (50% duty cycle), single or dual phase |
| 10 digital inputs | 24V, typ. 7mA, opto-isolated |
| 8 digital outputs | relay contacts, normally open, SPST |
|    Load | max. 5A/250V AC or 5A/30V DC, resistive |
| 4 analog inputs | 0..10V or 0(4)..20mA (2% of FSR at 25°C) |
| 1 analog output | 0..10V (2% of FSR at 25°C) |
| Communication | RS-232, Ethernet, IEX |
| Connected modules | max. 31 |
| Power supply | 85..260V AC, 50..60Hz |
|    Power output | 24V DC max. 320mA (at 85..260V AC, max. 50°C) |
|    (24V DC Out & IEX) | 24V DC max. 500mA (at 230..240V AC, max. 40°C) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:
RS232 only                        CYBRO-2-230
RS232 and Ethernet          CYBRO-2-230-E

CybroTech

# uCyBro-2R

Micro-controller with relay outputs

**6M**

**IEX**

**6x** opto 24V

**6x** relay 5A

**5x/2x** pot 10k 0..10V

**1x** PWM 24V

**C LANGUAGE** PROG

uCyBro-2R is a low-cost programmable micro-controller.
Software application is programmed into controller by way of in-system-programming (ISP) connector; it enables the automation system to operate without the support of personal computer.
Controller already includes digital and analog input and output points.
Additional expansion modules can be connected to the unit via IEX bus that communicates by using an open proprietary protocol (CAN2.0 based).
A network of intelligent controllers can also be established via A-Bus (RS-485).
Hitachi L200 inverter units can be controlled using modubus protocol.
Unit is powered by an external 24V DC power supply.

## Technical specifications

| | |
|---|---|
| Internal memory | 64KB FLASH, 2KB RAM, 2KB EEPROM |
| 8 digital inputs | 24V, typ. 7mA, opto-isolated |
| 6 digital outputs | relay contacts, normally open, SPST |
|   Load | max. 5A/250V AC or 5A/30V DC, resistive |
| 5 analog inputs | potentiometer (10 bit) |
| 2 analog intputs | 0..10V (0.1%) |
| 1 PWM  output | PNP transistor, 24V, 2A (10 bit) |
| Communication | RS-485,  IEX |
| Connected modules | max. 3 |
| Power supply | 20..28V DC |
|   Power consumption | 1.9W |
|   Total power output | 24V DC max. 2A |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:          UCYBRO-2R

# uCyBro-2T

## Micro-controller with transistor outputs

| | | |
|---|---|---|
| **6M** | **6x** opto 24V | **5x/2x** pot 10k 0..10V |
| **IEX** | **8x** PNP 2A | **1x** PWM 24V | **C LANGUAGE** PROG |

uCyBro-2T is a low-cost programmable micro-controller.
Software application is programmed into controller by way of in-system-programming (ISP) connector; it enables the automation system to operate without the support of personal computer.
Controller already includes digital and analog input and output points.
Additional expansion modules can be connected to the unit via IEX bus that communicates by using an open proprietary protocol (CAN2.0 based).
A network of intelligent controllers can also be established via A-Bus (RS-485).
Hitachi L200 inverter units can be controlled using modubus protocol.
Unit is powered by an external 24V DC power supply.

## Technical specifications

| | |
|---|---|
| Internal memory | 64KB FLASH, 2KB RAM, 2KB EEPROM |
| 8 digital inputs | 24V, typ. 7mA, opt-isolated |
| 6 digital outputs | PNP transistor, 24V, 2A, opto-isolated |
| 5 analog inputs | potentiometer (10 bit) |
| 2 analog intputs | 0..10V (0.1%) |
| 1 PWM  output | PNP transistor, 24V, 2A (10 bit) |
| Communication | RS-485,  IEX |
| Connected modules | max. 3 |
| Power supply | 20..28V DC |
| Power consumption | 0.9W |
| Total power output | 24V DC max. 2A |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:          UCYBRO-2T

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# IPU

## Inverter controller

S special

IEX

8x opto 24V

8x PNP 2A

4x 0..10V 0..20mA

1x 0..10V
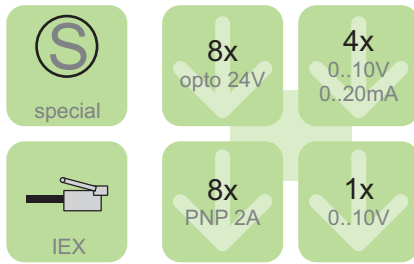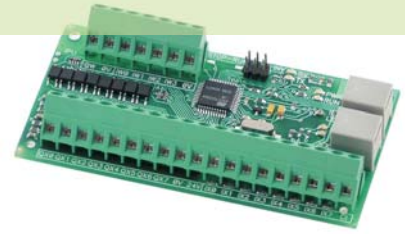
Provides connection for multiple Hitachi inverters to an IEX bus system. The unit can operate in two modes. In PLC mode, the unit is used as a standalone controller; in IEX mode, the unit responds as a standard I/O expansion module.
In PLC mode, the unit controls a frequency inverter by reading and writing its predefined parameters based on the loaded application. If the IPU is programmed as a module, then it can be connected to the IEX network and the logical control of the inverter is provided completely by an application installed in the CyBro-2 controller.
The unit is designed for Hitachi inverters L300P and SJ300.
Small dimensions enable the IPU to be mounted inside a frequency inverter.
Powered from frequency inverter.
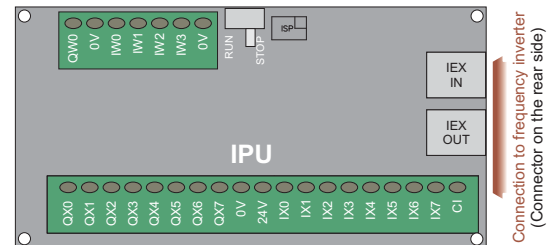


## Technical specifications

| | |
|---|---|
| Internal memory | 64KB FLASH, 2KB RAM, 2KB EEPROM |
| 8 digital inputs | 24V, typ. 7mA, opt-isolated |
| 8 digital outputs | PNP transistor, 24V, 2A, opto-isolated |
| 4 analog inputs | 0..10V or 0(4)..20mA (2% of FSR at 25°C) |
| 1 analog output | 0..10V (2% of FSR at 25°C) |
| Galvanic isolation | IEX from CPU and main inverter body |
| Power supply | from frequency inverter |
| Power consumption | 100mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP00 |
| Mounting | inside frequency inverters Hitachi L300P and SJ300 |
| Dimensions | 104x53x24mm |

## Ordering information

Order Code:
IPU in IEX mode                 IPU-P00-EM
IPU in PLC mode*               IPU-Pxx-EM
  *Contact Cybrotech sales department for
  information on available custom solutions.

# Bio-24R

## Relay I/O module

**6M**

**12x** opto 24V

**IEX**

**12x** relay 5A
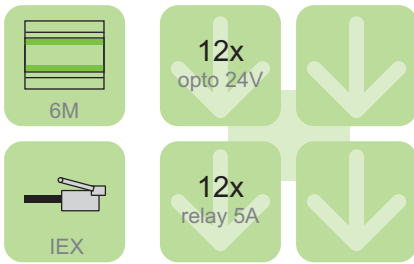
This device is an expansion module with 12 bi-directional inputs and 12 relay outputs.
Relay outputs can be used to control mains powered devices such as lights, blinds, shutters and more.
Current state of individual input and output is depicted by LED indicators located on the top foil.
Unit can be easily installed by push-and-click mounting on a DIN rail.
IEX ports located laterally on the housing enable simple networking of multiple CyBro-2 modules.
24V DC powered over IEX bus.
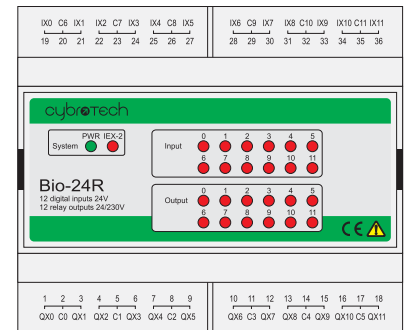
## Technical specifications

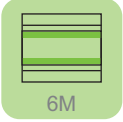| | |
|---|---|
| 12 digital inputs | 24V, typ. 7mA, opto-isolated |
| 12 digital outputs | relay contacts, normally open, SPST |
|    Load | max. 5A/250V AC or 5A/30V DC, resistive |
| Galvanic isolation | inputs/outputs from internal circuit |
| Power supply | 24V DC (over IEX bus) |
|    Power consumption | 160mA (64mA+8mA*number of active relays) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:        BIO-24R

cybrotech

# Bio-24T

Transistor I/O module

**6M**

**12x** opto 24V

**IEX**

**12x** PNP 2A
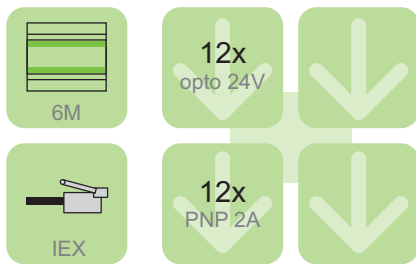
This device is an expansion module with 12 bi-directional inputs and 12 transistor outputs.
Outputs can be used to control various 24V DC devices or can be connected to electrically controlled relay which in turn can control mains powered devices.
Output transistors are galvanically separated from internal circuit and therefore require an external 24V DC supply to operate.
Current state of individual inputs and outputs is indicated by LED indicators located on the top foil.
Unit can be easily installed by push-and-click mounting on a DIN rail.
IEX ports located laterally on the housing enable simple networking of multiple CyBro-2 modules.
24V DC powered over IEX bus.
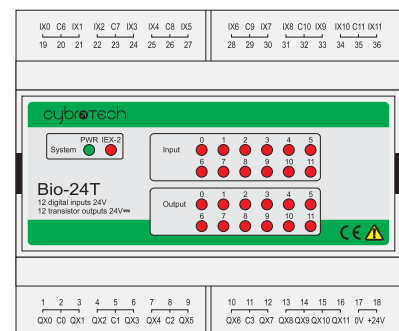
## Technical specifications

| | |
|---|---|
| 12 digital inputs | 24V, typ. 7mA, opto-isolated |
| 12 digital outputs | PNP transistor, 24V, 2A, opto-isolated |
| Galvanic isolation | inputs/outputs from internal circuit |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 90mA (64mA+2mA*number of active relays) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:          BIO-24T

# Bio-8R4

## High-power relay I/O module

6M

4x
opto 230V

IEX

8x
relay 16A
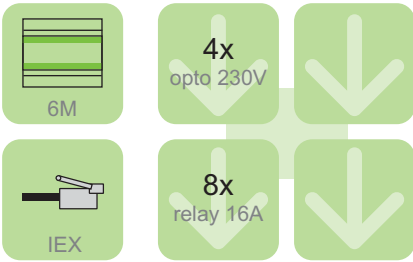
This device is an expansion module with 4 voltage-detecting inputs and 8 switching (type L, B24V)/contact (type N) relays; each relay also features additional voltage sensing functionality (L and B24V only). Relays are designed to control devices that consume current up to 16A (resistive loads).
Type N is general-purpose and can be used for ON/OFF control of a wide variety of devices.
Type L device is designed to control high-wattage lights and chains of low-wattage lights or for controlling motors of shutters and blinds.
Type B24V is designed to control 24V blinds and shutters.
Module is connected to controller via IEX bus.
IEX ports located laterally on the housing enable simple networking of multiple CyBro-2 modules.
Push-and-click mounting on a DIN rail and removable (detachable) I/O terminals enable simple installation of the unit.
24V DC powered over IEX bus.

### Bio-8R4-N
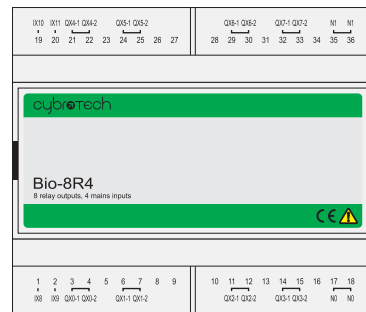
Digital power output
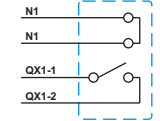
### Bio-8R4-L, Bio-8R4-B24V

Digital power output

**Bio-8R4-L**

2 — 3
— 1
ix    230V sense
N — N

**Bio-8R4-B24**

2 — 3
— 1
24V sense    ix
N — N
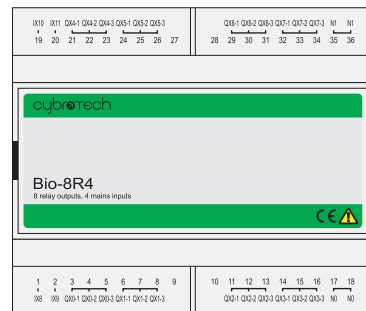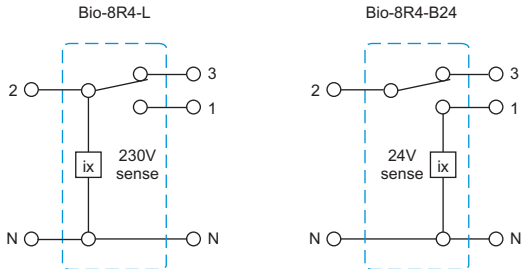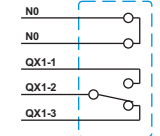
## Technical specifications

| | |
|---|---|
| 4 digital inputs | 230V AC, opto-isolated |
| 8 digital outputs | relay contacts |
|   Bio-8R4-N | SPST, max. 16A/250V AC, resistive |
|   Bio-8R4-L, B24V | SPDT, max. 16A/250V AC, resistive |
| Galvanic isolation | inputs/outputs from internal circuit |
| Power supply | 24V DC (over IEX bus) |
|   Power consumption | 150mA (22mA+16mA*number of active relays) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:
  for general-purpose with 4 sensor inputs (230V AC)      BIO-8R4-N
  for light switching with 8+4 sensor inputs (230V AC)      BIO-8R4-L
  for 24V blinds switching with 8+4 sensor inputs (24V AC)      BIO-8R4-B24

cybrotech

# 8C

Relay module



4x contact

4x relay 5A

in-wall

IEX
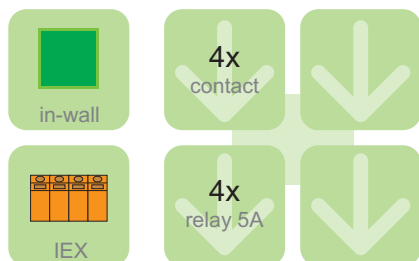
8C is a universal module with 4 digital switch inputs and 4 relay outputs.
Output relays can directly switch mains voltage that is connected to terminals 230N and 230L and can be used for controlling lights, blinds....
Push-wire connection terminals enable easy connection and disconnection.
Device is protected by plastic mounting box and can be installed in double ceiling, double flour, on the wall, or on a DIN rail.
24V DC powered over IEX bus.
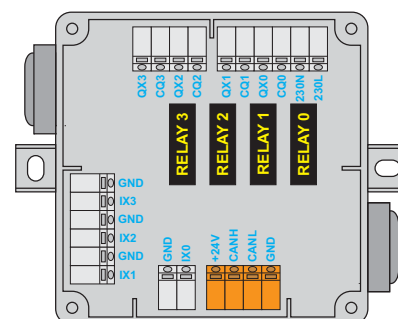
## Technical specifications

| | |
|---|---|
| 4 digital inputs | common-ground switch with internal pull-up (12V, 1mA) |
| 4 digital outputs | relay contacts, normally open, SPST |
|    Load | max. 5A/250V AC or 5A/30V DC, resistive |
| Power supply | 24V DC (over IEX bus) |
|    Power consumption | 100mA (60mA+10mA*number of active relays) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP42 |
| Mounting | in-wall |
| Dimensions | 108x86x46mm |

## Ordering information

Order Code:          8C-FB

# O2

## High-power relay I/O module



in-wall

IEX

2x
relay 16A
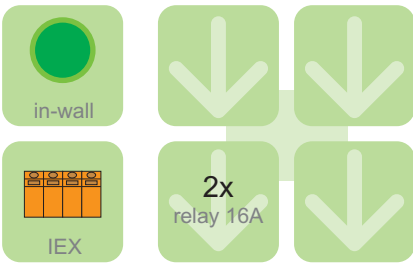
O2 module is a compact unit designed for installation in a flush box (fi80). It holds two power relays that can be used for controlling lights or blinds. Every O2 module also has two mains sense inputs that are hardwired to relay output pin 2 (L). When a 230V AC is connected between terminals N and QX-2, bit flag is set.
Module enables, with minimum installation redesign, changing existing lighting installation and automating the control.
Push-wire connectors ensure easy electrical installation.
24V DC powered over IEX bus.
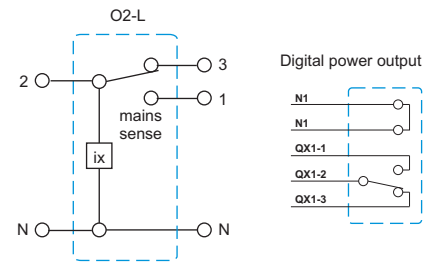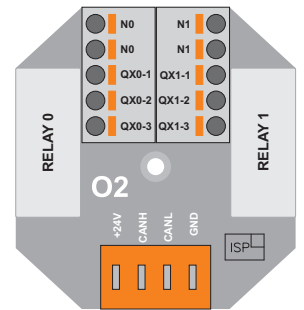


## Technical specifications

| | |
|---|---|
| 2 digital outputs | relay contacts, SPDT |
| Load | max. 16A/250V AC, resistive |
| Galvanic isolation | inputs/outputs from internal circuit |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 85mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Mounting | in-wall, flush box fi80 |
| Dimensions | 55x60x20mm |

## Ordering information

Order Code:
O2-L for switching lights or blinds      O2-L-IW

cybrotech

# AiR-12

## Resistance input module

**3M**

**IEX**

**12x Pt100**
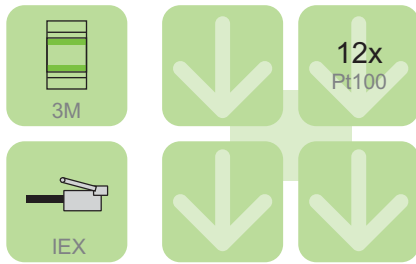
AiR-12 is a module designed to be used as a multiple resistance measuring device. Type of resistance can be selected as standard 0...2000ohm or various thermistor resistance.

Up to 12 temperature measuring thermistors or variable resistence can be connected to the module at any one time.

Accuracy of conversion can be configured according to project requirements. Module is housed in a standard 3M enclosure and can be easily mounted on a DIN rail and connected via removable I/O terminals.

IEX ports are located laterally on the housing to enable simple networking of multiple CyBro-2 modules.

Powered by 24V DC over IEX bus.
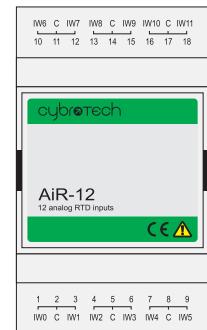
## Technical specifications

| | |
|---|---|
| 12 analog inputs | resistance |
| Type | Pt100/1000 (DIN 751), measuring range -100..300°C |
| | Ni100/1000 (DIN 43760), measuring range -50..160°C |
| | Ni100/1000 (Landis & Gyr), measuring range -50..160°C |
| | potentiometer 0..2000ohm |
| Connection type | 2-wire or 3-wire |
| Wire resistance | max. 20ohm (3-wire mode) |
| Resolution | 14 bits (input modes with 0.1% accuracy) |
| | 12 bits (input modes with 0.5%/1% accuracy) |
| Temperature drift | 0.01%/°C of measuring range |
| Galvanic isolation | between digital and analog circuit |
| | no isolation between channels |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 53x108x58mm |

## Ordering information

Order Code:        AIR-12

# AiV-12

Voltage input module

**3M**

**IEX**

**12x**
**0..10V**
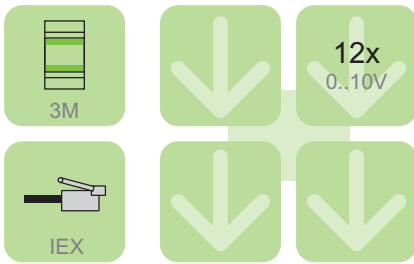
AiV-12 is a module designed to be used when multiple analog voltage signals must be converted to a digital value (e.g. temperature, humidity, pressure, etc.).
The module can measure signals ranging from 0 to 10V.
Up to 12 analog signals can be connected to the module at any one time.
Accuracy of conversion can be configured based on project requirements.
Module is housed in a standard 3M enclosure and can be easily mounted on a DIN rail and connected via removable I/O terminals.
IEX ports are located laterally on the housing to enable simple networking of multiple CyBro-2 modules.
Powered by 24V DC over IEX bus.
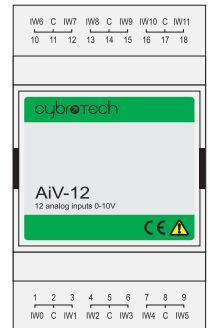
## Technical specifications

| | |
|---|---|
| 12 analog inputs | 0..10V |
| Resolution | 13 bits (input modes with 0.1% accuracy) |
| | 11 bits (input modes with 0.5%/1% accuracy) |
| Temperature drift | 0.01%/°C of measuring range |
| Galvanic isolation | between digital and analog circuit |
| | no isolation between channels |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 53x108x58mm |

## Ordering information

Order Code:        AIV-12

cybrotech

# AiC-12

Current input module

3M

IEX

12x
0..20mA
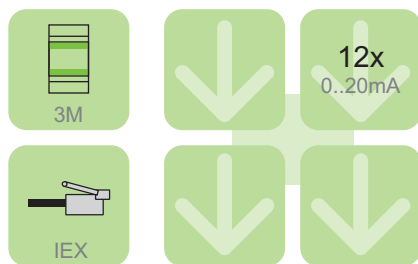
AiC-12 is a module designed to be used when multiple analog current signals must be converted to a digital value (e.g. temperature, humidity, pressure, etc.).
The module can measure signals ranging from 0 to 20mA.
Up to 12 analog signals can be connected to the module at any one time.
Accuracy of conversion can be configured based on project requirements.
Module is housed in a standard 3M enclosure and can be easily mounted on a DIN rail and connected via removable I/O terminals.
IEX ports are located laterally on the housing to enable simple networking of multiple CyBro-2 modules.
Powered by 24V DC over IEX bus.
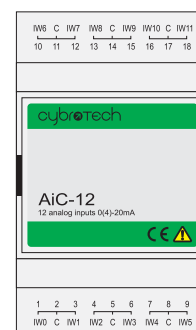
## Technical specifications

| | |
|---|---|
| 12 analog inputs | 0..20mA |
| Resolution | 13 bits (input modes with 0.1% accuracy) |
| | 11 bits (input modes with 0.5%/1% accuracy) |
| Temperature drift | 0.01%/°C of measuring range |
| Galvanic isolation | between digital and analog circuit |
| | no isolation between channels |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 53x108x58mm |

## Ordering information

Order Code:        AIC-12

# AoV-12

Voltage output module

**3M**

**IEX**

**12x 0..10V**
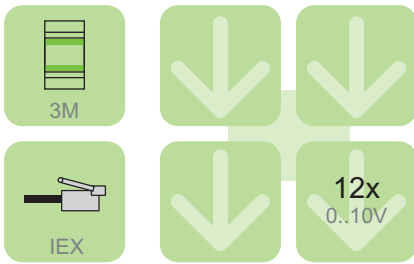
AoV-12 is a system control (lighting, valves, motors) module with 12 individually adjustable voltage outputs.
0..10V range can be sourced on the outputs.
Accuracy of conversion can be configured based on project requirements.
Module is housed in a standard 3M enclosure and can be easily mounted on a DIN rail and connected via removable I/O terminals.
IEX ports are located laterally on the housing to enable simple networking of multiple CyBro-2 modules.
Powered by 24V DC over IEX bus.
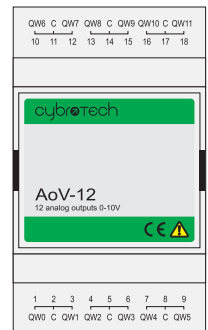
## Technical specifications

| | |
|---|---|
| 12 analog outputs | 0..10V |
| Output current | max. 10mA per channel |
| | max. 70mA for all channels |
| Resolution | 8 bits (with accuracy 1% of FSR) |
| Temperature drift | 0.01%/°C of measuring range |
| Galvanic isolation | between digital and analog circuit |
| | no isolation between channels |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 150mA (50mA+1.3mA*total output current) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 53x108x58mm |

## Ordering information

Order Code:          AOV-12

CybroTech

# FC

## Fan coil unit control module

**in-wall**

**IEX**

**1x** contact

**5x** relay 5A

**°C**

FC can be used as a fan coil unit control module with three relays designed to control the speeds of fan and two relays for hot and cold water valves.
Unit holds one digital input that can can either be used as a window-is-open signal commanding the automation system to reduce or completely shut off the air conditioning, or as a general input.
Two external temperature sensors can be connected to the device in order to detect temperature in the room.
Push-wire connectors enable easy connection and disconnection.
Device is protected by plastic mounting box and can be installed in double ceiling, double floor, on the wall, or on a DIN rail.
24V DC powered over IEX bus.

## Technical specifications

| | |
|---|---|
| 1 digital input | common-ground switch with internal pull-up (12V, 1mA) |
| 5 digital outputs | relay contacts, normally open, SPST |
| Load | max. 5A/250V AC or 5A/30V DC, resistive |
| 2 sensor connectors | Integra-BM external temperature sensor |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 110mA (60mA+10mA*number of active relays) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP42 |
| Mounting | in-wall |
| Dimensions | 108x86x46mm |

## Ordering information

Order Code:        FC-FB

# HR

## Hotel room control module

6M

12x contact

IEX

8x relay 5A

°C

IEX
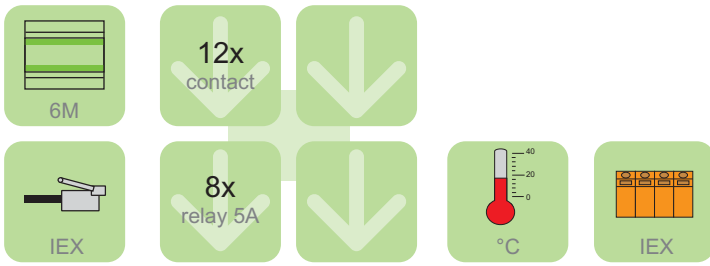
HR is a simple and cost-effective hotel room solution. It maintains heating, cooling, air-circulation, lighting, fire/flood alarm and the emergency button. Digital inputs can be used for switches, buttons or thermostats. Relay outputs can control fan coil units, lights, fans, etc.
Unit can be easily installed by push-and-click mounting on a DIN rail.
Two external sensors can be connected to measure room temperature.
IEX ports on sides of the housing enable simple networking of multiple CyBro-2 modules. If the device is installed out of electrical distribution box then it can be connected to the network via IEX terminal instead of side RJ9 ports.

| GND | SL0 | SL1 | SL2 | SL3 | GND | SF0 | SF1 | SF2 | | GND | TH | WO | EM | FF | CC | TS0 | GND | TS1 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|----|----|----|----|----|-----|-----|-----|
| 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |

cybrotech

HR
hotel room unit

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|----|----|----|----|----|----|----|----|--|----|----|----|----|----|-----|-----|-----|-----|
| C | L0 | L1 | L2 | L3 | F0 | F1 | F2 | BF | | C | VC | VH | | | GND | CANL | CANH | +24V |
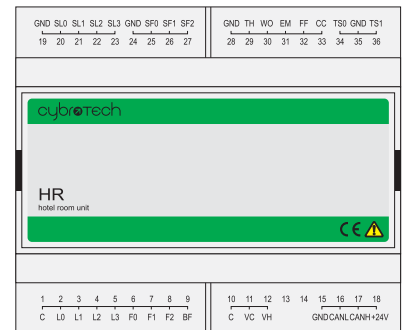
## Technical specifications

| | |
|---|---|
| 12 digital inputs | common-ground switch with internal pull-up (12V, 1mA) |
| 10 digital outputs | relay contacts, normally open, SPST |
|    Load | max. 5A/250V AC or 5A/30V DC, resistive |
| 2 sensor connectors | Integra-BM external temperature sensor |
| Power supply | 24V DC (over IEX bus) |
|    Power consumption | 200mA (50mA+15mA*number of active relays) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 106x108x58mm |

## Ordering information

Order Code:        HR

cybrotech

# TS

Temperature sensor module

on-wall

IEX

1x
temperature

°C
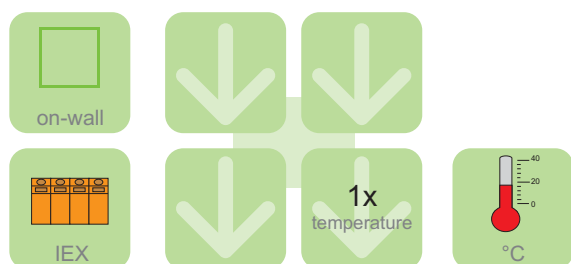
Room temperature sensors measuring room atmosphere parameters for the purpose of building automation.
Additional external sensor on wires can be connected to module unit.
Version with added humidity sensor also available.
Push-wire connectors enable easy connecting and disconnecting.
Device is protected by plastic housing and can be installed on the wall.
24V DC powered over IEX bus.

This side up

TS

GND
CANL
CANH
+24V
TS1
GND
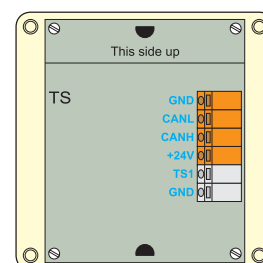
## Technical specifications

| | |
|---|---|
| Temperature measurement | 0°C..+50°C |
| Resolution | 0.1°C |
| Error | typ. ±0.2°C (+15°C to +35°C) |
| | max. ±1°C (-10°C to +85°C) |
| Humidity sensor* | 0..100% RH, non-condensing, ±2% RH at 25°C |
| 1 sensor connector | Integra-BM external temperature sensor |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 15mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP30 |
| Mounting | on-wall |
| Dimensions | 71x71x27mm |

## Ordering information

Order Code:
  white housing        TS-OW-WHITE
  white housing and humidity sensor        TS-H-OW-WHITE
  ivory housing        TS-OW-IVORY
  ivory housing and humidity sensor        TS-H-OW-IWORY
  different housing colors on request        TS-OW-CUSTOM

# LC-S

## Analog light control module

**in-wall**

**2x** contact

**3x** pot 10k 0..10V

**IEX**

**4x** 0..10V

**LUX**

**MD**

**IR**
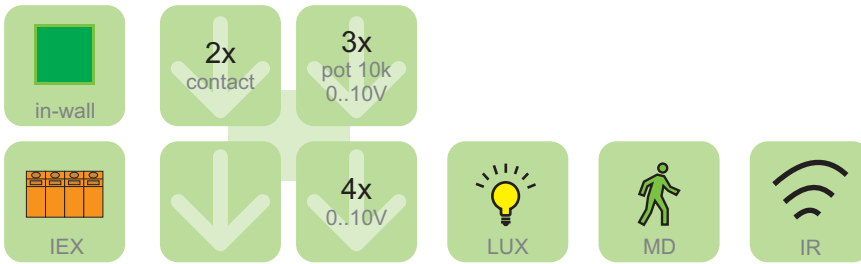
LC-S is a lighting control module with inputs which are typically used in lighting automation.
0..10V outputs enable dimmable lighting control.
Motion detectors and multisensors can be connected to module to provide information about room occupancy and illumination level.
Three analog inputs assignable to light-dimming potentiometers.
Push-wire connectors enable easy connection and disconnection.
Device is protected by plastic mounting box and can be installed in double ceiling, double floor, on the wall or on a DIN rail.
24V DC powered over IEX bus.
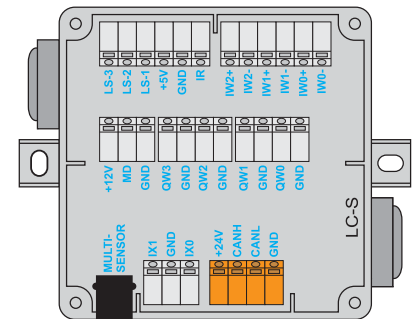
## Technical specifications

| | |
|---|---|
| 2 digital input | common-ground switch with internal pull-up (12V, 1mA) |
| 3 analog inputs | 0..10V (10bit ADC, 0..1023) |
|   Internal pull-up | 12V, 2mA |
| 4 analog outputs | 0..10V (8bit DAC, 0..255) |
|   Current per channel | max. 10mA |
|   Ballasts per channel | max. 50 |
|   All ballasts | max. 100 |
| 2 sensor connectors | Integra-BM multisensor |
| | Multisensor (entry for RJ-12 modular jack) |
| Power supply | 24V DC (over IEX bus) |
|   Power consumption | 100mA (40mA - without sensors and ballasts) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP42 |
| Mounting | in-wall |
| Dimensions | 108x86x46mm |

## Ordering information

Order Code:      LC-S-FB

CybroTech

# LC-D

DALI light control module
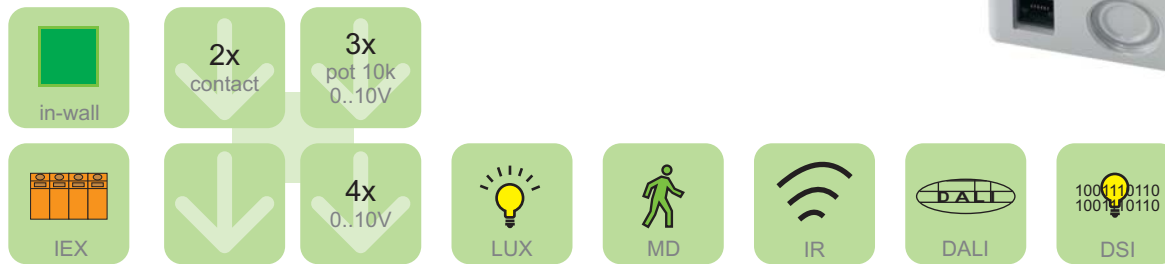
| | | | |
|---|---|---|---|
| in-wall | 2x contact | 3x pot 10k 0..10V | |
| IEX | | 4x 0..10V | LUX | MD | IR | DALI | DSI |

LC-D is a lighting control module with inputs which are typically used in lighting automation.
DALI and DSI outputs are digital lighting control standards that enable complex lighting control with pre-programmed schedules, group light control, and much more.
Motion detectors and multisensors can be connected to the module to provide the system with information on room occupancy and illumination level.
Three analog inputs assignable to light-dimming potentiometers.
Push-wire connectors enable easy connection and disconnection.
Device is protected by plastic mounting box and can be installed in double ceiling, double floor, on the wall or on a DIN rail.
24V DC powered over IEX bus.

## Technical specifications

| | |
|---|---|
| 2 digital input | common-ground switch with internal pull-up (12V, 1mA) |
| 3 analog inputs | 0..10V (10bit ADC, 0..1023) |
| Internal pull-up | 12V, 2mA |
| 1 DALI output | max. 32 ballasts |
| Output current | max. 100mA |
| 4 DSI outputs | max. 100 (per channel) |
| Total output current | max. 250mA |
| 2 sensor connectors | Integra-BM multisensor |
| | Multisensor (entry for RJ-12 modular jack) |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 160mA (40mA - without sensors and ballasts) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP42 |
| Mounting | in-wall |
| Dimensions | 108x86x46mm |

## Ordering information

Order Code:        LC-D-FB

CybroTech

# LC-DC

DALI light control module
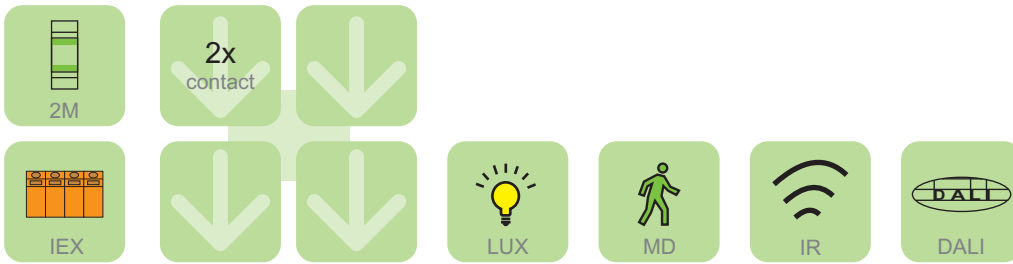
**2M**

**2x contact**

**IEX**

**LUX**

**MD**

**IR**

**DALI**

LC-D is a lighting control module with inputs which are typically used in lighting automation.
DALI outputs are digital lighting control standards that enable complex lighting control with
pre-programmed schedules, group light control, and much more.
Motion detectors and multisensors can be connected to the module to provide the system
with information on room occupancy and illumination level.
RJ connectors enable easy connection and disconnection.
Device is installed in a standard 2M housing and can be mounted on a DIN rail.
24V DC powered over IEX bus.

## Technical specifications

| | |
|---|---|
| 2 digital input | common-ground switch with internal pull-up (12V, 1mA) |
| 1 DALI output | max. 64 ballasts |
|    Output current | max. 100mA |
| 1 sensor connector | Multisensor (entry for RJ-12 modular jack) |
| Power supply | 24V DC (over IEX bus) |
|    Power consumption | 140mA (40mA - without sensors and ballasts) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 36x99x58mm |

## Ordering information

Order Code:      LC-DC

cybrotech

# SW-L

Switch module



| | |
|---|---|
| in-wall | 8x contact |
| IEX | 4x LED 10mA |
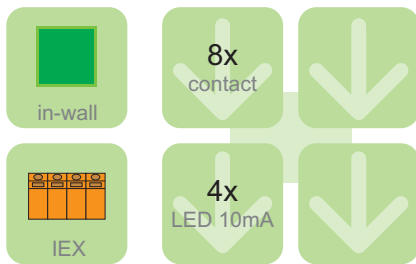
Switch module is used for detecting key/switch press.
It is specially designed for Legrand, BTicino and TEM switches. Electrical installation of switches of these brands is very easy as no wires are required between the module and the switch. All connections are made by pins souldered directly on the board.
SW-L holds 4 LED diodes that are application programmable and can be used to indicate the key or system state.
A maximum of 4 switches can be connected to the board. If less are required (minimum of 2), then excess inputs can be removed by breaking of a part of the board.
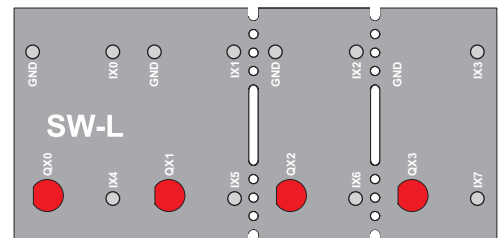


SW-L

(Connector on rear side)

GND
CANL
CANH
+24V

## Technical specifications

| | |
|---|---|
| 8 digital inputs | common-ground switch with internal pull-up (12V, 2.5mA) |
| 4 digital outputs | |
| LED illumination | 3mm red LED diodes |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 70mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Mounting | in-wall, flush box |
| Dimensions | 89x44x38mm |

## Ordering information

Order code:
• module with red LEDs                          SW-L-EM
• different LED colors on request               SW-L-EM-CUSTOM
• embedded switch                               SW-L-EM-KIT

For KIT option consult Cybrotech team to define:
 • buttons (black or white, without or with light indication window)
 • cover plates (Polar White, Ivory White, Inpulse Blue, Mint Green,
   Elox Silver, Sand Gold or Night Black)
 • mounting frames
 • flush boxes

# SW-W

## Switch module



| | | |
|---|---|---|
| in-wall | 8x contact | 2x 0..10V |
| IEX | 2x LED 10mA | |
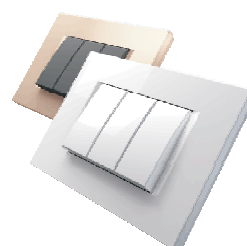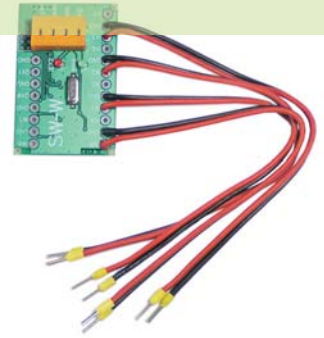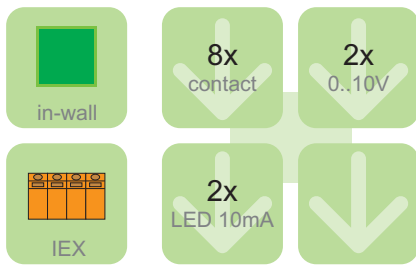
Switch module is used for detecting key/switch press. It can be used for in automation of lights, blinds etc.
Unlike the SW-L module, this product uses wires and can therefore be used with any type and brand of switches.
2 LED diodes can be connected to the board and freely controlled by application.
Two analog inputs are also available on the device and can be used to connect potentiometers for dimming control.
Module is installed in a flush box with the switches.
Unit is powered with 24V DC over IEX bus.
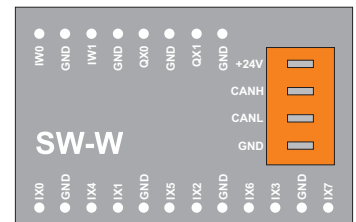


## Technical specifications

| | |
|---|---|
| 8 digital inputs | common-ground switch with internal pull-up (12V, 2.5mA) |
| 2 digital outputs | |
|    LED illumination | for connecting 2 LED diodes |
| 2 analog inputs | 0..10V (10bit ADC, 0..1023) |
|    Internal pull-up | 12V, 2mA |
| Power supply | 24V DC (over IEX bus) |
|    Power consumption | 50mA |
| Wires length | 20cm, factory default (max. 2m) |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Mounting | in-wall, flush box |
| Dimensions | 60x40x12mm |

## Ordering information

Order Code:
  with wires for 4 switches      SW-W-EM
  with additional wires         SW-W-EM-CUSTOM

CybroTech

# SW-W2

Switch module



4x contact (or 0..10V)

in-wall

4x LED 10mA

IEX
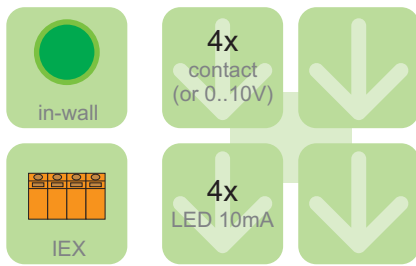
Very small design of this switch module makes it perfect for installation in places where space is an issue.
Inputs are analog/digital which means that any type of switch or key, or a potentiometer, can be connected if analog value change is required.
LED diodes can be connected to the outputs. Illumination level of LEDs can be controlled by the application in the controller.
IEX terminal is a push-wire type enabling fast and easy module connection.
Inputs and outputs can be connected with wires attached to a removable connector.
The module is very thin and can fit easily into a round flush box fi60.
Powered by 24V DC over IEX bus.
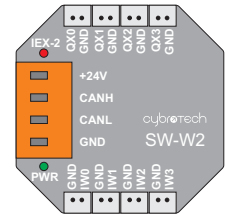
## Technical specifications

| | |
|---|---|
| 4 Analog/digital inputs | for connecting 4 keys |
| Analog range | 0..10V (10 bit ADC, 0..1023) |
| Internal pull-up | 12V, 2mA |
| 4 digital outputs | |
| LED illumination | for connecting 4 LED diodes |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 70mA (30mA +10mA * number of active LED) |
| Wires length | 15cm |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Mounting | in-wall, flush box fi60 |
| Dimensions | 50x50x15mm |

## Ordering information

Order Code:     SW-W2-IW

# ES

## External temperature sensor

special

wires

°C
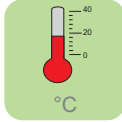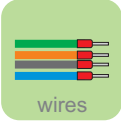
External temperature sensors can be connected to automation system through TS, FC or HR units.
Sensors offer precisie temperature measurement.
Three models are availble for purchase:
 * ES (on wires)
 * ES-W (in housing)
 * ES-1M (in light switch housing)

**ES-W**

This side up

TS
GND

**ES**

GND
TS
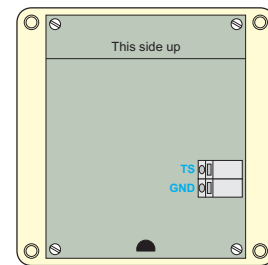
## Technical specifications

| | |
|---|---|
| Mounting distance | max. 3m |
| ES-W | |
| Measuring error | typ. ±0.2°C, max. ±0.5°C, max. ±0.5°C (-10°C .. +85°C) |
| Operating temperature | -55°C .. +85°C |
| Degree of protection | IP20 |
| Mounting | on-wall |
| Dimensions | 71x71x27mm |
| ES-W | |
| Measuring error | typ. ±0.2°C (-10°C .. +85°C), max. ±2°C (-55°C .. +125°C) |
| Operating temperature | -55°C .. +125°C |
| Mounting | special |
| Dimensions | sensor fi5.3mm |

## Ordering information

Order Code:
  ES (on wire)                                ES
  ES-W
   * white housing                            ES-W-OW-WHITE
   * ivory housing                            ES-W-OW-IVORY
   * different color on request               ES-W-OW-CUSTOM
  ES-1M (in light switch housing)             ES-1M-IW

cybroTech

# THS02

Room thermostat
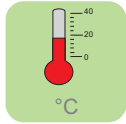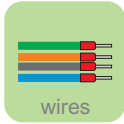
Mechanical room thermostat that can be installed in every room and can be used to control heating and cooling.
The unit can control fan speeds.
Integrated digital sensor can be used to accurately measure room temperature.
Module can be easily connected to HR module.

THERMOSTAT **THS02**

HOTEL ROOM MODULE

| | |
|---|---|
| | 36 TS1 |
| 10: Temperature GND | 35 GND |
| 11: Temperature + | 34 TS0 |
| 3: Thermostat | 33 CC |
| 1: Heat ON | 32 FF |
| 9: Cool ON | 31 EM |
| 4: Fan HIGH | 30 WO |
| 6: Fan LO | 29 TH |
| 8: Ground | 28 GND |
| 2: Ground | |
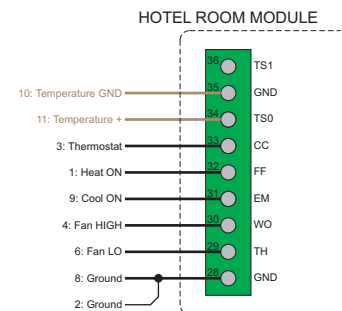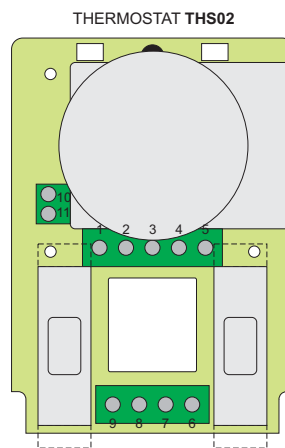
## Technical specifications

| | |
|---|---|
| Switches | |
|    Control | HEAT-OFF-COOL |
|    Speed | LOW-MED-HIGH |
| Thermostat | 10..30°C |
|    Setting precision | ±0.8°C (at 20°C) |
| Digital temperature measurement | ±0.2°C |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | on-wall |
| Dimensions | 86x86x32mm |

## Ordering information

Order Code:          THS02-OW

# MS

## Multisensor

on-ceiling

push-wire  LUX  IR
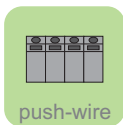
Multisensor can be easily connected to automation system through LC-S or LC-D modules.
The device is fitted with an illumination sensor that can sense current illumination in the room; this information can then be used to adjust the illumination to the desired levels.
IR receiver detects commands from a remote control unit, enabling the user to control the automation system parameters while comfortably seated on a sofa.
Integrated beeper is used for feedback information on system state or successful IR command reception.
Sensor is mounted on the ceiling.

Ambient light measurement

IR reciver

MS  LC-S  MS  LC-D

004300  004400
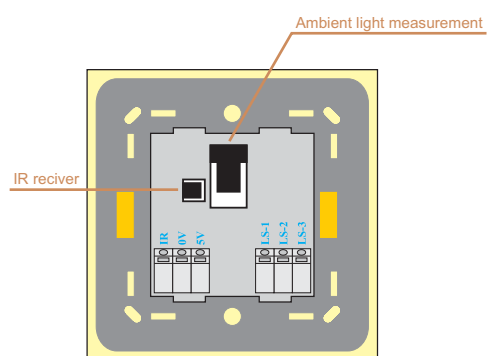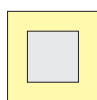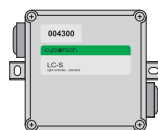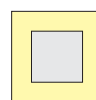
LC-S  LC-D
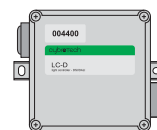
## Technical specifications

| Light measurement | |
|---|---|
| Power supply | 12..24V DC |
| Power consumption | max. 25mA |
| Operating range | 0..2000lux |
| Directivity | 60° (-10dB)    MS-O-IW |
| | 160° (-10dB)  MS-I-IW |
| Output range | 1..10V or 4..20mA |
| IR receiver | |
| Power supply | 5V DC |
| Output current | max. 3mA |
| Carrier frequency | 36kHz |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | on-ceiling, fluch box fi60 |
| Dimensions | 80x80x35mm |

## Ordering information

Order Code:
  MS-O for outdoor light measurement          MS-O-IW
  MS-I for indoor light measurement           MS-I-IW

CybroTech

# LRI8134

Multisensor

on-ceiling

RJ12  MD  IR  LUX
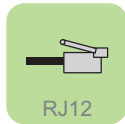
Compact multi-sensor combining advanced internal light sensor, motion detector and infra-red receiver.
The motion detector can be partly shaded to limit coverage.
The sensor is suitable for both recessed and surface mounting. Mounting height is between 2.5m and 3.5m.
Module can be easily connected to LC-D or LC-S module.
DIP switches on the unit can be used to enable/disable sensor elements.
LED indicators that can be used to check infrared communication and motion detection (can be enabled/disabled with DIP switches).
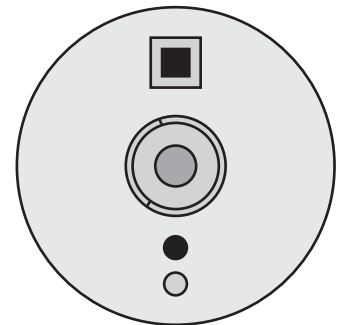
| LRI8134 | LC-S | LRI8134 | LC-D | LRI8134 | LC-DC |

## Technical specifications

| | |
|---|---|
| IR output | RC5 |
| Light sensor | 0..10V , Ro=1kΩ |
| Motion detector | open collector output; active LOW state |
| Power supply | 11..24V DC (powered from connected module) |
| Power consumption | 10mA |
| Operating conditions | 5..50°C, 20..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | flush box fi60 |
| Dimensions | 72x26x64mm |

## Ordering information

Order Code:        LRI8134-IW

# LRM8114

Motion sensor
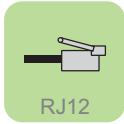
Compact-design highly sensitive motion sensor.
Motion detector can be partly shaded to limit coverage.
The sensor is suitable for both recessed and surface mounting. Mounting
height is between 2.5m and 3.5m.
Module can be easily connected to LC-D or LC-S module.
DIP switches on the unit can be used to enable/disable sensor elements.
LED indicators that can be used to check motion detection (can be
enabled/disabled with DIP switches).

Sensors
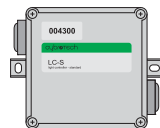
| LRI8114 | LC-S | LRI8114 | LC-D | LRI8114 | LC-DC |
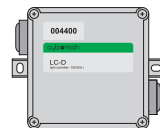
## Technical specifications

| | |
|---|---|
| Motion detector | open collector output; active LOW state |
| Power supply | 11..24V DC (powered from connected module) |
| Power consumption | 10mA |
| Operating conditions | 5..50°C, 20..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | flush box fi60 |
| Dimensions | 72x26x64mm |

## Ordering information

Order Code:        LRM8144-IW

cybrotech

# LRM8115

Motion sensor
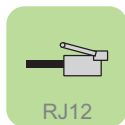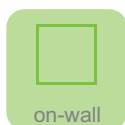
Compact-design highly sensitive motion sensor.
Depending on the requirements, different type of coverage area sensors can be selected.
Each sensor can provide long-range, wide-range, or aisle coverage.
Sensors contain a built-in daytime override functionality that can be used to disable the output signal when adequate daylight is present in the room.
Sensors can be installed directly on the wall and easily connected to a LC-D or LC-S module.
DIP switches on the unit can be used to enable/disable sensor elements.
LED indicators that can be used to check motion detection (can be enabled/disabled with DIP switches).



| LRI8115 | LC-S | LRI8115 | LC-D | LRI8115 | LC-DC |
|---|---|---|---|---|---|
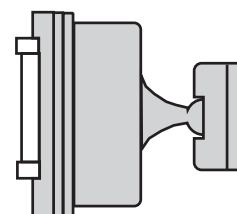
## Technical specifications

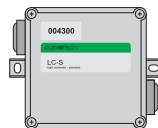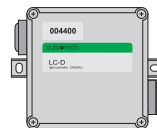| | |
|---|---|
| Motion detector | open collector output; active LOW state |
| Detection pattern | |
| LRM8115 | long range, narrow angle corridor pattern |
| LRM8116 | 90° wide angle, 22 beams in 4 detection layers |
| LRM8117 | 90° wide angle, 9 beams in 1 detection layer |
| Power supply | 11..24V DC (powered from connected module) |
| Power consumption | 10mA |
| Operating conditions | 5..50°C, 20..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | on-wall |
| Dimensions | 70x66x73mm |

## Ordering information

Order Code:
| | |
|---|---|
| long range, surface mount | LRM8115-OW |
| wide area, surface mount | LRM8116-OW |
| aisle aplications, surface mount | LRM8117-OW |

# CAD-POTI

Electronic potentiometer
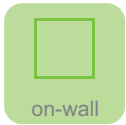
on-wall
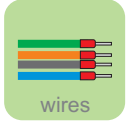
wires

Potentiometer can be used for dimming lights and switching on/off devices with push-button switch.
Unit is connected to CyBro-2 system through analog input (with internal pull-up) on OP-3, LC-S, LC-D, RGB-D or SW-W.
Switch is connected to digital input.
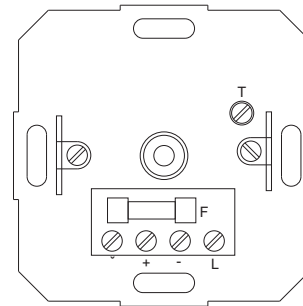
| Point | Description |
|-------|-------------|
| ↓ | Switch connection |
| L | Switch connection |
| + | Potentiometer connection |
| - | Potentiometer connection |
| F | Fuse |
| T | Brightness adjustment |

## Technical specifications

Potentiometer
   Control voltage                     0.7 ..10V DC
   Current                          max. 50mA

Switch
   Load                             max. 6A, 230V AC

Operating conditions         0..50°C, 0..85% RH non-condensing

Degree of protection          IP20

Mounting                     on-wall, flush box fi60

Dimensions                 80x80x45mm

## Ordering information

Order Code:         CAD-POTI

CybroTech

# OP-1

## IEX operator panel

in-wall

IEX    °C    IR

Two line, 16 character display designed as a human-machine interface.
Panel can display various system messages, states and parameter values, all programmable with an intelligent controller unit.
LED backlight can be adjusted to various levels to make the display comfortable and easy to read.
5 keys can be used to navigate pre-programmed menus and to set system parameters.
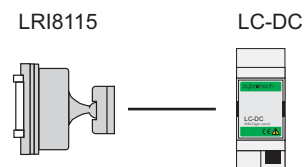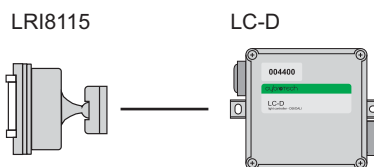Integrated temperature sensor can be used to control room temperature for HVAC systems, thus eliminating the need for additional sensing devices.
IR receiver enables the use of a remote control which further advances the comfort offered by the automation system.
Integrated beeper can be used to communicate simple messages to the user (e.g. successfully received IR command).
Panel is powered by 24V DC over IEX bus.

Custom front foils

IR receiver

Temperature sensor

(Connector on rear side)

GND
CANL
CANH
+24V

OP

## Technical specifications

| | |
|---|---|
| Display | LCD, 2x16 characters |
| Backlight | green LED, software adjustable 0..100% |
| Number of keys | 5 |
| Beeper | duration and on/off software adjustable |
| IR receiver | receiving distance max. 5m |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP44 |
| Mounting | in-wall, flush box (120x58x49mm) |
| Dimensions | 140x80x48mm |

## Ordering information

Order Code:
standard front foil          OP-1-IW
custom front foil on request   OP-1-IW-CUSTOM

# OP-2

## IEX operator panel
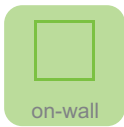


on-wall

IEX

Two line, 16 character display designed as a human-machine interface.
Panel can display various system messages, states and parameter values, all programmable with an intelligent controller unit.
LED backlight can be adjusted to various levels to make the display comfortable and easy to read.
5 keys can be used to navigate pre-programmed menus and to set system parameters.
Panel is powered by 24V DC  over IEX bus.
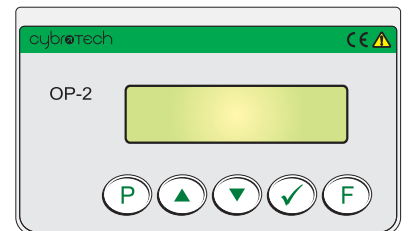


(Connector on rear side)

## Technical specifications

| | |
|---|---|
| Display | LCD, 2x16 characters |
| Backlight | green LED, software adjustable 0..100% |
| Number of keys | 5 |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 40mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP54 |
| Mounting | panel, on-wall |
| Dimensions | 106x63x24mm |

## Ordering information

Order Code:          OP-2-CT

cybrotech

# OP-3

## IEX operator panel
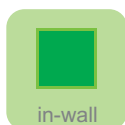
in-wall
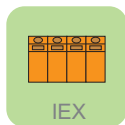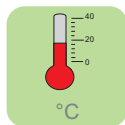
IEX | °C | %RH | IR

Two line, 20 character display designed as a human-machine interface.
Panel can display various system messages, states and parameter values, all programmable with an intelligent controller unit.
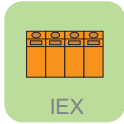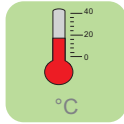LED backlight can be adjusted to various levels to make the display comfortable and easy to read.
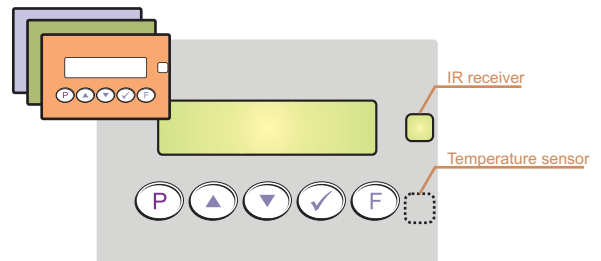5 keys can be used to navigate pre-programmed menus and to set system parameters.
4 LED indicators can be used to display various system information.
Integrated temperature and humidity sensor can be used for room environment control.
Additional temperature sensors and potentiometers can be connected to the device.
Panel is powered by 24V DC over IEX bus.
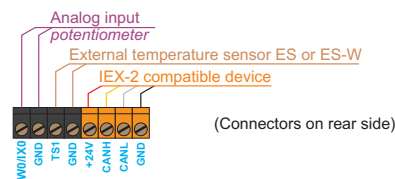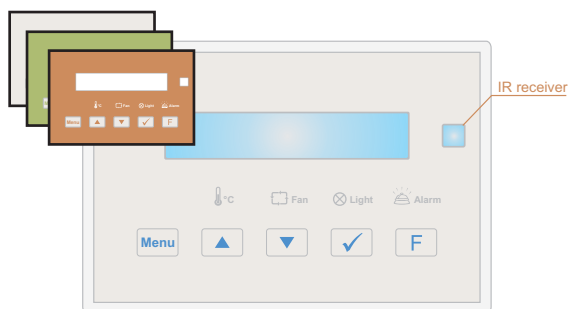
Custom front foils

IR receiver

Analog input
*potentiometer*
External temperature sensor ES or ES-W
IEX-2 compatible device

(Connectors on rear side)

IW0/IX0  GND  TS1  GND  +24V  CANH  CANL  GND

## Technical specifications

| | |
|---|---|
| Display | LCD, 2x20 characters |
|    Backlight | blue LED, software adjustable 0..100% |
| Number of keys | 5 |
| 4 LED outputs | LED diodes |
| 1 analog input | 0..10V (10bit ADC, 0..1023) |
|    Internal pull-up | 12V, 2mA |
| Temperature sensor | 0°C..+50°C, ±2°C, 0.1°C |
| Humidity sensor | 0..100% RH, non-condensing, ±2% RH at 25°C |
| Beeper | duration and on/off software adjustable |
| IR receiver | receiving distance max. 5m |
| Power supply | 24V DC (over IEX bus) |
|    Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | in-wall, flush box fi60 |
| Dimensions | 120x80x49mm |

## Ordering information

Order Code:
  temperature                      OP-3-T-IW
  temperature and humidity    OP-3-TH-IW
  custom front foils on request  OP-3-IW-CUSTOM

OP

cybrotech

# OP-4

## IEX operator panel



in-wall

| | | | |
|---|---|---|---|
| IEX | °C | IR | LUX |
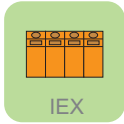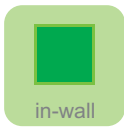
Two line, 20 character display designed as a human-machine interface in hotel rooms or homes.
Panel can display various system messages, states and parameter values, all programmable with an intelligent controller unit.
LED backlight can be adjusted to various levels to make the display comfortable and easy to read.
Encoder key can be used to navigate pre-programmed menus and to set system parameters.
IR receiver enables the use of a remote control which increases the comfort the automation system offers.
Additional temperature sensors and potentiometers can be connected to the device.
Integrated beeper can be used to communicate simple messages to the user (e.g. successfully received IR command).
Panel is powered by 24V DC over IEX bus.

(Connectors on rear side)

IW3/IX3 · GND · IW2/IX2 · IW1/IX1 · GND · IW0/IX0 · TS1 · GND · TS0 · +24V · CANH · CANL · GND

Analog input / potentiometer

External temperature sensor

IEX-2 compatible device

IR receiver and light sensor
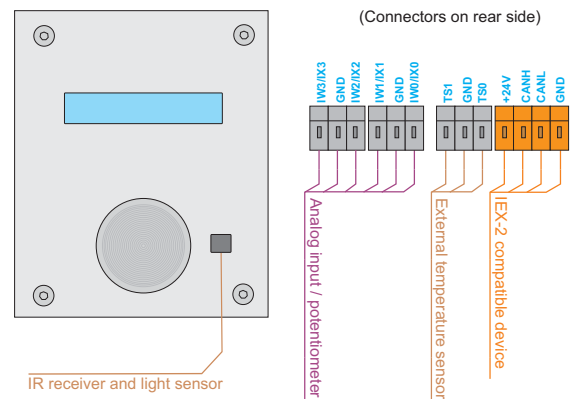
## Technical specifications

| | |
|---|---|
| Display | LCD, 2x20 characters |
| Backlight | blue LED, software adjustable 0..100% |
| Number of keys | 1 encoder |
| 4 analog input | 0..10V (10bit ADC, 0..1023) |
| Internal pull-up | 12V, 2mA |
| 1 light sensor | 8 bit |
| 2 sensor connectors | Integra-BM external temperature sensor |
| Beeper | duration and on/off software adjustable |
| IR receiver | receiving distance max. 5m |
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | on-wall |
| Dimensions | 142x115x25mm |

## Ordering information

Order Code:     OP-4-OW

cybrotech

# OPT04/05

Color touch screen operator panel

in-wall

RS-232     TOUCH
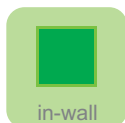
Panels connect to CyBro-2 controllers via serial communication.
Product range offers units with various dimensions, display colors and available memory.
Every panel uses resistive touch detection technology, enabling creation of advanced human-machine interfaces.
Panels are powered by external 24V DC power supply.

LED backlight

(Connectors on rear side)

Serial ports
RS232
RS422
RS485

24V DC
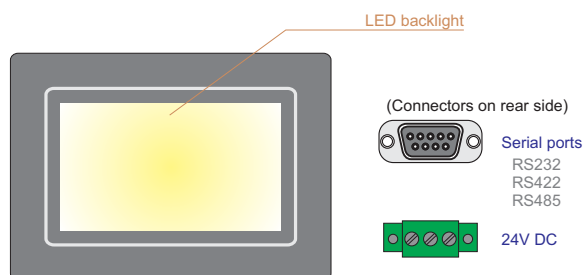
## Technical specifications

|  | OPTW04 | OPTW05 |
|---|---|---|
| Display | TFT, 256 colors | TFT, 256 colors |
| Resolution | 480x272 | 320x234 |
| Active display area | 4.3", 97x55mm | 5.6", 115x82mm |
| Touch screen | 4 wires resistive | 4 wires resistive |
| User memory | 2MB | 2MB |
| Interfaces |  |  |
| Serial ports | 1x | 1x |
| Power supply | 12..28V DC | 24V DC |
| Power consumption | 150mA at 24V DC | 250mA at 24V DC |
| Operating conditions | 0°C..+45°C, 10..90% RH non-condensing | |
| Degree of protection | IP65 (front panel) | IP65 (front panel) |
| Mounting | panel / in-wall | panel / in-wall |
| Dimensions | 128x102x38mm | 204x150x48mm |

## Ordering information

Order Code:
OPT04                            OPTW04-CT
OPT04 with mounting kit          OPTW04-IW
OPT05                            OPTW05-CT
OPT05 with mounting kit          OPTW05-IW

# OPT05E/08E

Color touch screen operator panel

in-wall

ETH    TOUCH
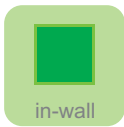
Panels connect to CyBro-2 controllers via serial or Ethernet communication.
Product range offers units with various dimensions, display colors and available memory.
Every panel uses resistive touch detection technology, enabling creation of advanced human-machine interfaces.
Panels are powered by external 24V DC power supply.

LED backlight

(Connectors on rear side)

Serial ports
RS232
RS422
RS485

Ethernet port

24V DC
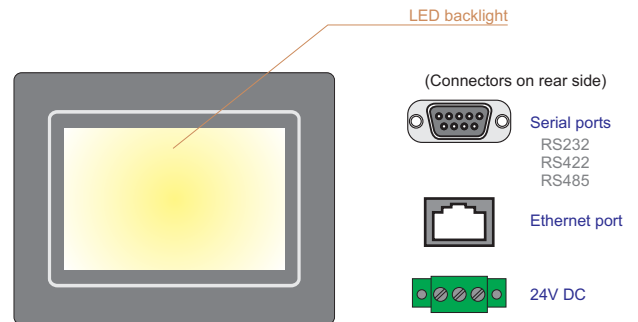
## Technical specifications

|  | OPT05E | OPT08E |
|---|---|---|
| Display | TFT, 65536 colors | TFT, 65536 colors |
| Resolution | 320x234 | 640x480 |
| Active display area | 5.6", 115x82mm | 8", 162x120mm |
| Touch screen | 4 wires resistive | 4 wires resistive |
| User memory | 32MB | 32MB |
| Interfaces |  |  |
| Serial ports | 3x | 3x |
| Ethernet | 1x | 1x |
| USB | 2x | 3x |
| Power supply | 24V DC | 24V DC |
| Power consumption | 220mA | 440mA |
| Operating conditions | 0°C..+45°C, 10..90% RH non-condensing | |
| Degree of protection | IP65 (front panel) | IP65 (front panel) |
| Mounting | panel / in-wall | panel / in-wall |
| Dimensions | 204x150x48mm | 240x179x50mm |

## Ordering information

Order Code:
OPT05E                              OPTW05E-CT
OPT05E with mounting kit            OPTW05E-IW
OPT08E                              OPTW08E-CT
OPT08E with mounting kit            OPTW08E-IW

OP

cybrotech

# OPT10E/12E

Color touch screen operator panel

in-wall

ETH          TOUCH
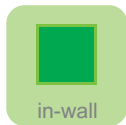
Panels connect to CyBro-2 controllers via serial and Ethernet communication.
Product range offers units with various dimensions, display colors and available memory.
Every panel uses resistive touch detection technology, enabling creation of advanced human-machine interfaces.
Panels are powered by external 24V DC power supply.

LED backlight

(Connectors on rear side)

Serial ports
RS232
RS422
RS485

Ethernet port

24V DC
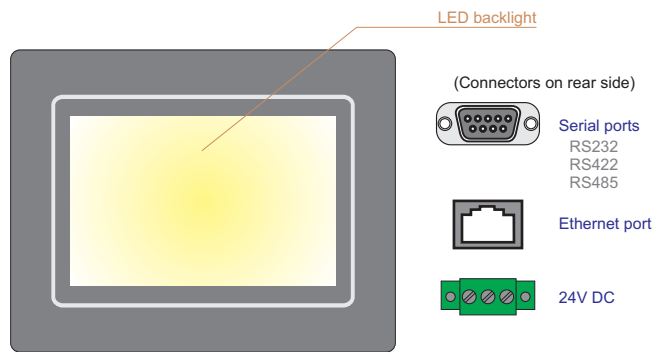
## Technical specifications

|  | OPT10E | OPT12E |
| --- | --- | --- |
| Display | TFT, 65536 colors | TFT, 65536 colors |
| Resolution | 640x480 | 800x600 |
| Active display area | 10.4", 211x159mm | 12.1", 245x182mm |
| Touch screen | 4 wires resistive | 4 wires resistive |
| User memory | 32MB | 32MB |
| Interfaces |  |  |
| Serial ports | 3x | 3x |
| Ethernet | 1x | 1x |
| USB | 3x | 3x |
| Power supply | 24V DC | 24V DC |
| Power consumption | 440mA | 500mA |
| Operating conditions | 0°C..+45°C, 10..90% RH non-condensing |  |
| Degree of protection | IP65 (front panel) | IP65 (front panel) |
| Mounting | panel / in-wall | panel / in-wall |
| Dimensions | 286x212x50mm | 323x243x51mm |

## Ordering information

Order Code:
| | |
| --- | --- |
| OPT10E | OPTW10E-CT |
| OPT10E with mounting kit | OPTW10E-IW |
| OPT12E | OPTW12E-CT |
| OPT12E with mounting kit | OPTW12E-IW |

# WS-12

PC workstation
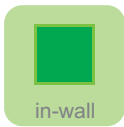
in-wall

ETH    TOUCH

This product is an embedded computer with a 12.1" color screen and touch sensitive surface.
Primarily designed as a human-machine interface in building automation.
Touch surface enables interaction between user and building automation system.
The computer offers a wide range of connectivity options ranging from serial communication ports to USB and Ethernet ports.
Front frame finish can be customized to blend with any building interior design.
Product is powered by external 24V DC power supply.

Serial ports

(Connectors on rear side)

VGA output    COM3    USB ports    24V DC
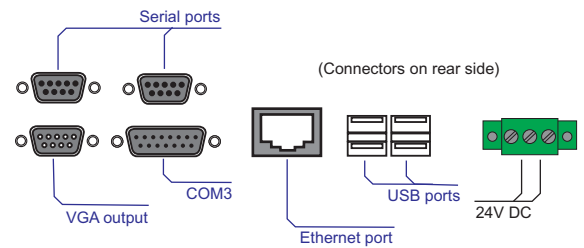
Ethernet port

## Technical specifications

| | |
|---|---|
| Display | LCD TFT, 16M colors |
| Resolution | 800x600 |
| Active display area | 12.1", 246x184.5mm |
| Touch screen | 5 wires resistive |
| CPU | 800MHz, 512KB cache |
| System memory | max. 512MB |
| Interfaces | |
| Serial ports | 3x |
| Ethernet | 1x |
| USB | 4x |
| Power supply | 18..36V |
| Power consumption | max. 3A |
| Operating conditions | 0°C..+35°C, 10..80% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | in-wall, flush box |
| Dimensions | 356x294x75mm |

## Ordering information

Order Code:
  without operating system                    WS-12-IW

CybroTech

# GSM-ETH-RT

GPRS router



special

ETH

1001110110
GPRS
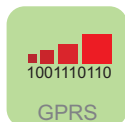
GPRS-ETH-RT is a mobile router capable of connecting remote devices or networks over GPRS/EDGE.
Typical applications:
 * direct connection
 * center to multipoint
 * ethernet / mobile routing
 * serial port / ethernet converter
 * serial port / mobile network transmission
Easy-to-use WEB/Telnet configuration interface for setup and maintenance of device.
Wide input voltage range (8..26V DC) enables direct powering from CyBro-2 systems.



10M LINK NET RUN

SIM card holder

(Connectors on rear side)

COM    RJ45    DC    RESET    ANT

Antenna connector

Plug-in power

Serial port    Ethernet port
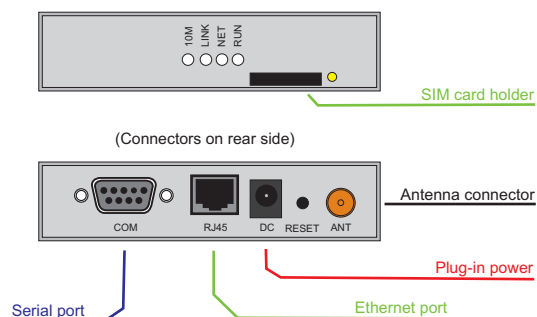
## Technical specifications

| Features | |
|---|---|
| Dual frequency | GPRS/EDGE or CDMA 1x network |
| Mobile router | built-in DHCP server |
| | firewall and NAT |
| Configuration | WEB/Telnet or RS232 |
| SIM card | 3V |
| Data interface | RS-232, Ethernet |
| Power supply | 8..26V DC |
| Power consumption | 300mA at +8V DC (stand by) |
| | 450mA @ +8VDC (max) |
| Operating conditions | -10..60°C, 10..90% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | special |
| Dimensions | 98x100x23mm |

## Ordering information

Order Code:      GSM-ETH-RT

cybrotech

# GSM-T02

GSM modem

S

special

ETH

GSM

GSM modem is used for remote control of automation system. User can receive SMS messages with system information or send SMS messages with keyword commands.
Supports quad-band GSM850/EGSM900/DCS1800/PCS1900 to comply with various GSM frequency standards worldwide.
Easy to integrate with extended AT command set for communication with controller.
Wide input voltage range (6..30V DC) enables direct powering from CyBro-2 systems.

DATA&CTRL interface

Handset connector

Antenna connector

SIM card holder

Plug-in power
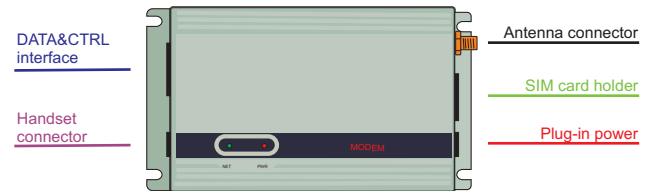
## Technical specifications

**Features**

| | |
|---|---|
| Quad band | GSM850/EGSM900/DCS1800/PCS1900 |
| Performance | class4(2W) for EGSM900 |
| | class1(1W) for DCS1800/PCS1900 |
| Control | AT commands |
| SIM card | 3V or 1.8V |
| Data interface | RS-232 |
| Power supply | 6..30V DC |
| Power consumption | 3mA (stand by) |
| | 260mA (active) |
| Operating conditions | 0..50°C, 10..80% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | special |
| Dimensions | 140x93x66mm |

## Ordering information

Order Code:        GSM-T02-FB

CAD-GSM01-P2 cable for connection to controller included.

cybrotech

# TD-101

GPS/GPRS tracking module



**special**

**GPRS**

1001110110

**GPS**

TD-101 is Tri-band GSM/GPRS device intended to send location information via GPRS/TCP. Positions are acquired from satellites via GPS part of the device.
Mounting location is inside the vehicle, under the dashboard, together with external GPS antenna when used.
The device is powered by car battery and embedded Lithium-ion battery.
Current position is not sampled if the engine is off and the vehicle is not moving.



External antenna
connector
(if applicable)

ON/OFF pushbutton

1  +8...35V, red
2  digital input (general), grey
3  digital input (key), white
4  GND, black
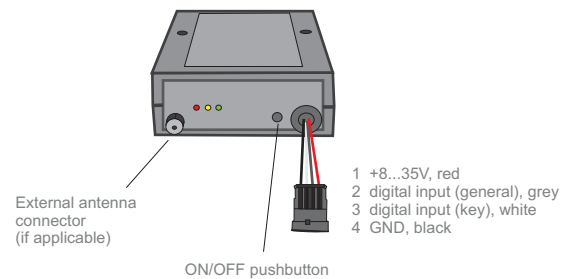
## Technical specifications

| Features | |
|---|---|
| Tri band | GSM900/DCS1800/PCS1900 |
| Performance | class4(2W) for GSM900 |
| | class1(1W) for DCS1800/PCS1900 |
| Antenna | |
| GPS | external or embedded patch ceramic |
| GSM | embedded patch antenna |
| Battery | Li-ion |
| Power supply | 8..35V DC |
| Power consumption | 5mA (stand by - the vehicle stopped) |
| | 500mA (when transmitting) |
| Operating conditions | -20..55°C, 0..80% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | inside the vehicle, under the dashboard |
| Dimensions | 60x95x22mm |

## Ordering information

Order Code:
  with external antenna          TD-101-E
  internal antenna               TD-101-I

# CAN-USB

USB to CAN interface

**S** special

IEX    USB

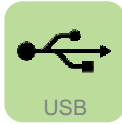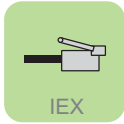Special USB to CAN interface that can be used to easily connect to IEX network operating at a maximum baud rate of 1Mbit/s.
Interface can be used to update firmware or to change the serial address of a connected IEX device.
With its compact plastic casing, the device is ideally suited for use with laptops and notebooks.
Software and in-house programming sources are supplied to make the package complete.

IEX-2 module

CAD-CAN-USB

CAD-CAN-P2

Accessories
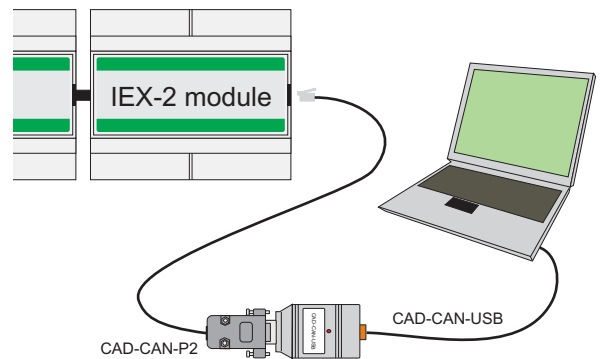
## Technical specifications

Features

| | |
|---|---|
| Controller | PHILIPS SJA1000 CAN |
| Performance | 16MHz frequency |
| | 82C251 CAN transceiver |
| Compliance | CAN specification 2.0A (11-bit ID) and 2.0B (29-bit ID) |
| Connection | 9-pole male D-SUB, USB |
| Power supply | via USB bus from computer |
| Cable length | 70 cm |
| Operating conditions | 10..55°C, 0..80% RH non-condensing |
| Dimensions | 86x20x42mm |

## Ordering information

Order Code:        CAD-CAN-USB

cybroTech

# CAD-232-A2

A-bus converter

**2M**

**IEX**       **RS-232**
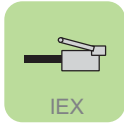
Device is a RS-232 to A-bus converter that is used to connect CyBro-2 controllers into A-bus network.
A-bus network is used when data exchange between multiple controllers or multiple controllers and a SCADA system is required.
Up to two devices (controller, PC, etc.) can be connected to one converter. Up to 32 devices total can be connected in this way.
A-bus lines are protected by galvanic isolation from the RS232.
Data flow is indicated by LED signalization located by each communication port.
Push and click mounting on DIN rail with only 2M dimensions.
24V DC powered over IEX bus.

## Technical specifications

| | |
|---|---|
| Power supply | 24V DC (over IEX bus) |
| Power consumption | 50mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 36x99x58mm |

## Ordering information

Order Code:        CAD-232-A2

# CAD-BE

Bus expander

**2M**

**IEX**

**IEX**
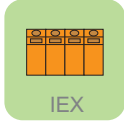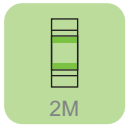
This device is a passive switch for easy interconnection between DIN-mounted IEX modules installed in remote locations throughout the building.
Unit is DIN mountable and includes an input IEX connector (RJ9), an output (RJ9) connector to connect to the next module, and another screw-terminal to connect to remote IEX modules.
Bus expander has small dimensions and is enclosed in a 2M housing.
24V DC powered over IEX bus.
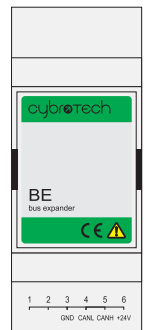
## Technical specifications

| | |
|---|---|
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 36x99x58mm |

## Ordering information

Order Code:          BE

cybrotech

# CAD-BA

Bus adapter



**S**
special

**IEX**

**IEX**
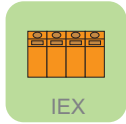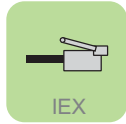
Adapter is used for connecting modules through an IEX bus to a CyBro-2 controller or to other modules.
Small dimensions enable installation in restricted spaces.
Easy installation with removable bus terminals and RJ9 connector.
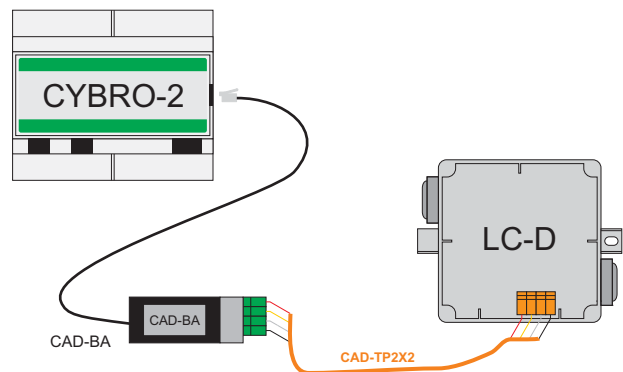


## Technical specifications

| | |
|---|---|
| Cable length | 0.5m with RJ9 connector |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Dimensions | 65x25x19mm |

## Ordering information

Order Code:      CAD-BA

# CAD-SPL

Bus spliter

S

special

IEX    IEX

Device is used to easily split a 4-wire telephone cable IEX bus into two seperate lines.
Spliter enables easy connection of more than one OP-2 panel to the IEX network.
All conection terminals are of RJ9 type.

cybrotech

CAD-SPL

IN    OUT    OUT

Made in EU

CAD-SPL

CYBRO-2

OP-2

OP-2
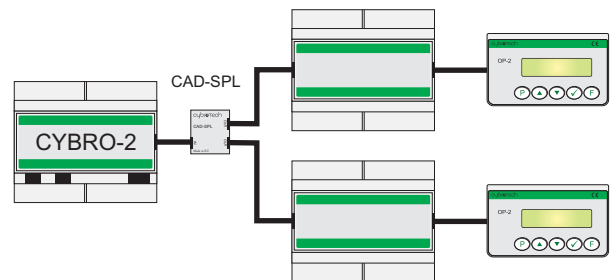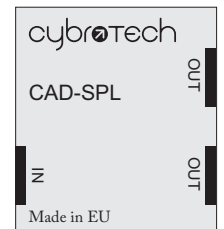
## Technical specifications

| Features | 3 x IEX-2 connectors, RJ-9 connectors |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP20 |
| Dimensions | 31x35x26mm |

## Ordering information

Order Code:        CAD-SPL

cybrotech

# CAD-CEX

Bus adapter/spliter



**S** special

| IEX | IEX | IEX |
|---|---|---|
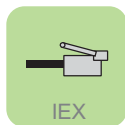
CAD-CEX1 adapter is used to easily connect expansion modules with push-wire connectors to the IEX network.
CAD-CEX2 is an adapter/splitter device that enables connection of push-wire connectible modules to bus without attaching an RJ9 connector to the end of the original bus.
Small dimensions enable installing adapter in limited spaces.
Easy installation with removable bus terminals and RJ9 connector.
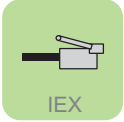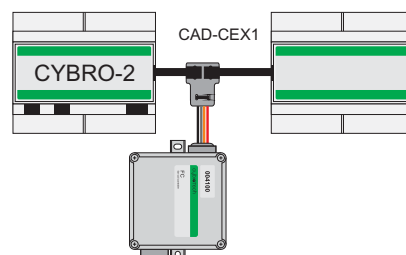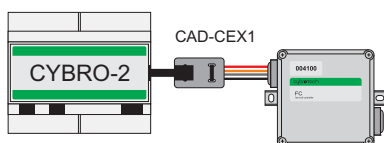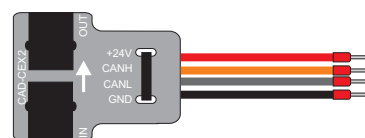


## Technical specifications

| | |
|---|---|
| Wire length | 20cm |
| Dimensions | 35x21x18mm (CAD-CEX1) |
| | 38x29x18mm (CAD-CEX2) |

## Ordering information

Order Code:
CAD-CEX1                    CAD-CEX1
CAD-CEX2                    CAD-CEX2

# CAD-TP2x2

IEX bus cable
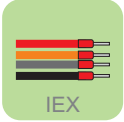
Specially designed connection cable used for connecting IEX devices.
Orange cable coat enables easy identification and clear distinction from
other types of cables.
Cable consists only of necessary number of conduits that are color-
coded in a way that enables easy connection and network scan.

Continuing connection

Outgoing cable

CAN    24V

GND
CANL
CANH
+24V

CAN    24V

Incoming cable
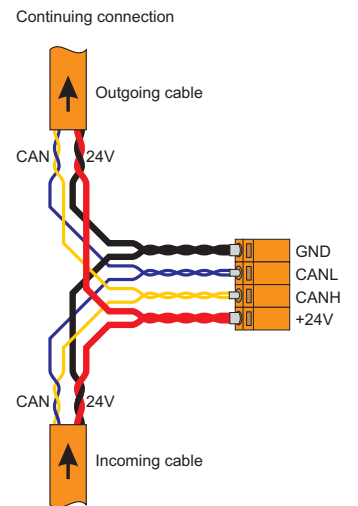
## Technical specifications

| | |
|---|---|
| Wires | 2 x twisted pair (2x0.25mm$^2$ + 2x0.75mm$^2$) |
| Diameter | 7mm |
| Copper weight | 21.0kg/km |
| Outer jacket | PVC, orange color |

## Ordering information

Order Code:        CAD-TP2X2

Minimum order quantity: 100m

cybroTech

# RE

IR remote




special


IR

IR remote controller designed to operate with CyBro-2 automation systems through  MS, OP-1, OP-3 devices.
The unit is ergonomically designed to fit comfortably into the user's palm.
11 marked keys that can be used to control lighting (ON/OFF, dimming, scene selecting), shutters (opening/closing) etc.
Transmission is indicated by a red LED on the remote.
Wide transmission angle and operating range of up to 5m ensures good reception from any location in the room.
2 standard AAA batteries are included with the remote.
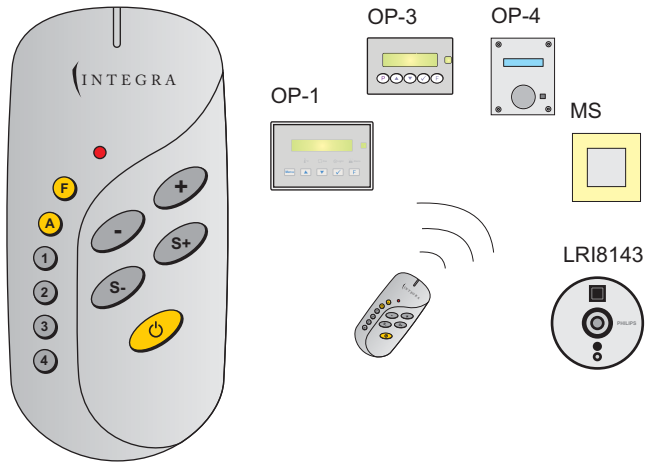


## Technical specifications

| | |
|---|---|
| Keys | 11 |
| Power supply | 2 x LR03 AAA batery |
| Operating range | 5m |
| Dimensions | 58x120x26mm |

## Ordering information

Order Code:
• remote                                      RE
• wal-mounted holder                   WH-RE-OW

# RGB-D

RGB light controller

| | | |
|---|---|---|
| in-wall | 2x contact | 3x pot 10k 0..10V |
| push-wire | ↓ | ↓ |
| | LUX | MD | IR | DALI |

RGB-D is a stand-alone unit with all integrated functions already defined. User has a complete freedom when creating personal profile with:
  * adjusting the hue / color softness in small, high-resolution steps
  * speed of color cycling
  * turning on and off the fade function
  * delaying power off  -  RGB controller with DALI output
The device features several inputs that enable full control via IR remote control unit, switches, potentiometers and multisensors.
Push-wire connectors allow easy connection and disconnection.
The device is enclosed in a protective plastic mounting box which enables installation in a double ceiling, double floor, on the wall, or on a DIN rail.
24V DC powered externally.
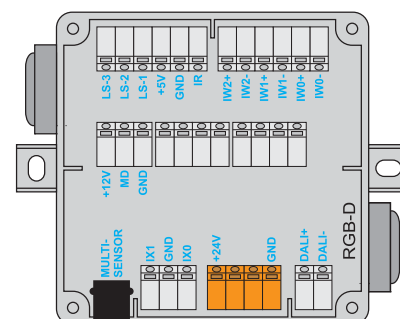
## Technical specifications

| | |
|---|---|
| 2 digital input | common-ground switch with internal pull-up (12V, 1mA) |
| 3 analog inputs | 0..10V (10bit ADC, 0..1023) |
| Internal pull-up | 12V, 2mA |
| 1 DALI output | max. 32 ballasts |
| Output current | max. 100mA |
| 2 sensor connectors | Integra-BM multisensor |
| | Multisensor (entry for RJ-12 modular jack) |
| Power supply | 24V DC |
| Power consumption | 160mA |
| Operating conditions | 0..50°C, 0..85% RH non-condensing |
| Degree of protection | IP42 |
| Mounting | in-wall |
| Dimensions | 108x86x46mm |

## Ordering information

Order Code:          RGB-D-FB

cybroTech

# PS-30

## Switching power supply unit

3M

wires
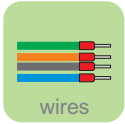
CyBro-2 devices can be powered by one of our several power supply units. Different output voltages (24V DC, 12V DC, 5V DC) can be selected.
Power supply is plugged to power mains 230V AC.
Up to 34W of DC power can be outputed. More power can be provided by PS-50 or PS-80 units.
Double output screw terminals for easy wire connection.
Power indication with a LED for quick operation check.
Each unit is enclosed in a 3M housing and is mountable on a DIN rail.

| 24V DC | 12V DC | 5V DC |
|--------|--------|-------|

## Technical specifications

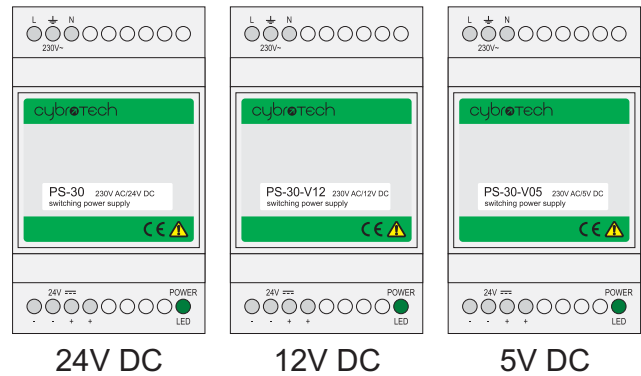| | **24V DC** | **12V DC** | **5V DC** |
|---|---|---|---|
| Input | | | |
|   Voltage | 180..256V AC | 180..256V AC | 180..256V AC |
|   Frequency | 47..63Hz | 47..63Hz | 47..63Hz |
|   Current | 0.24A (250V AC) | 0.24A (250V AC) | 0.24A (250V AC) |
| Output | | | |
|   Voltage | 24V DC ±3% | 12V DC ±3% | 5V DC ±3% |
|   Current | max. 1.4A | max. 2.4A | max. 3.8A |
|   Ripple and noise | max. 100mA | max. 100mA | max. 100mA |
|   Protection | short circuit protection, overload (heat) protection | | |
|   Efficiency | cca 85% by max load and 230V AC | | |
| Operating conditions | 0..50°C, 10..85% RH non-condensing | | |
| Degree of protection | IP20 | | |
| Mounting | DIN rail (35mm) | | |
| Dimensions | 53x90x58mm | | |

## Ordering information

Order Code:
• 24V DC output                    PS-30
• 12V DC output                    PS-30-V12
• 5V DC output                      PS-30-V05

Power

# PS-50

Switching power supply unit
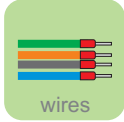
When PS-30 power supply unit does not deliver the required power,
PS-50 can be used instead, providing up to 66W of 24V DC power.
Power supply is plugged to power mains 230V AC.
Double output screw terminals for easy wire connecting.
Power indication with LED diode for quick operation check.
Units are in 5M housing and are mountable on DIN rail.
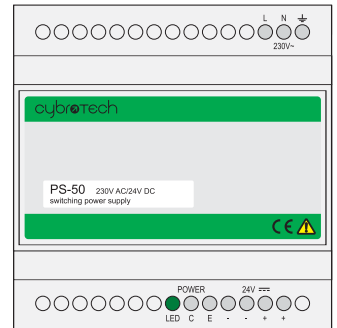
## Technical specifications

| Input | |
|---|---|
|    Voltage | 207..256V AC |
|    Frequency | 47..63Hz |
|    Current | 0.6A (250V AC) |
| Output | |
|    Voltage | 24V DC ±3% |
|    Current | max. 2.75A |
|    Ripple and noise | max. 100mA |
|    Protection | short circuit protection, overload (heat) protection |
|    Efficiency | cca 85% by max load and 230V AC |
| Operating conditions | 0..50°C, 10..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 89x90x58mm |

## Ordering information

Order Code:     PS-50

cybrotech

# PS-80

Switching power supply unit
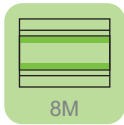
8M
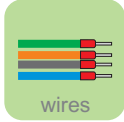
wires

Providing up to 120W of 24V DC voltage.
Power supply is plugged to power mains 230V AC.
Double output screw terminals for easy wire connection.
Power indication with LED diode for quick operation check.
The unit is enclosed in an 8M housing and it is mountable on a DIN rail.

INPUT: 230V~ 50 / 60Hz    N    L

cybrotech  CE ⚠

PS-80  230V AC/24V DC
switching power supply

OUTPUT:  24V ⎓ 5A  ⊟  ⊞
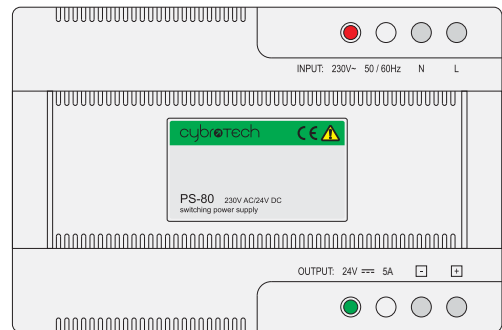
## Technical specifications

Input

| | |
|---|---|
| Voltage | 207..256V AC |
| Frequency | 47..63Hz |

Output

| | |
|---|---|
| Voltage | 24V DC ±3% |
| Current | max. 5A |
| Ripple and noise | 20mVpp |
| Protection | short circuit protection, overload (heat) protection |
| Efficiency | cca 85% by max load and 230V AC |
| Operating conditions | 0..50°C, 10..85% RH non-condensing |
| Degree of protection | IP20 |
| Mounting | DIN rail (35mm) |
| Dimensions | 140x93x66mm |

## Ordering information

Order Code:        PS-80

# CyPro

Integrated development environment



- CyPro is a software package for programming CyBro-2 controllers. It runs on Microsoft Windows 95/98/ME/NT4/2k/XP/Vista. CyPro is a fully featured IDE (integrated development environment) that comprising an editor, a compiler, and an on-line monitor.
- CyPro development tool is based on the IEC 1131-3 standard. It employs instruction lists and structured text programming, extended with several useful visual tools.
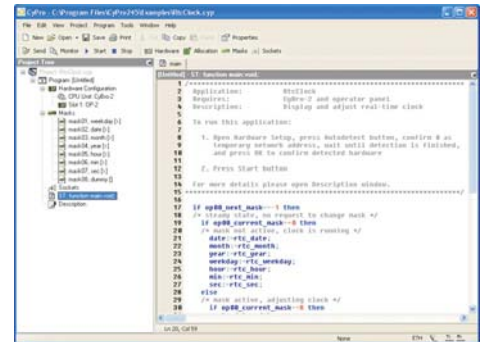


## Hardware requirements

- Any PC capable of running MS Windows 95 is adequate, although the recommended system is Pentium 500MHz with 128MB RAM. CyPro will occupy about 4MB of disc space. To connect the CyBro to a PC, a standard serial (RS232) port or Ethernet port is required. If a serial port is not available, connection may also be established using either USB-to-serial or Ethernet-to-serial converter.

## Ordering information

Latest addition available free for download at:
http://www.cybrotech.co.uk

# CyBro OPC

Data access server



• A CyBro OPC Data Access Server enables OPC clients (such as SCADA) to connect to the CyBro-2 system, using A-bus protocol. OPC includes open connectivity via open standards. Based on fundamental standards and technology of the general computing market, the OPC provides specifications that meet the requirements of industrial automation. Once an OPC server is set up for a particular device, it can be reused by any application that is able to act as an OPC client. An OPC server uses Microsoft's OLE technology (also known as the Component Object Model, or COM) to communicate with clients. COM technology permits a standard for real-time information exchange between software applications and process hardware.
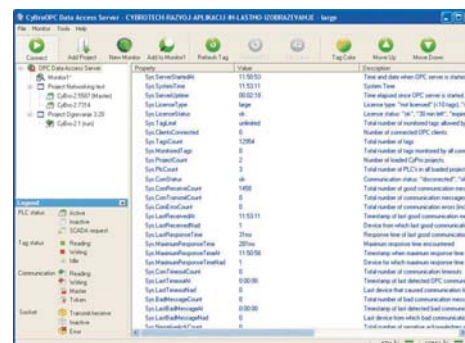


## Hardware requirements

• CyBro OPC Server may be installed on Microsoft Windows 95, 98, ME, NT4, 2000, XP and Vista. Recommended operating system is MS Windows 2000 with the latest available service pack. Installation occupies approximately 2.5MB of disk space. RAM usage depends on the number of connected controllers, number of clients, and number variables being monitored.

## Ordering information

Order Code:
• evaluation (up to 10 tags)          free*
• small (up to 100 tags)              CYBRO-OPC-S
• medium (up to 1000 tags)            CYBRO-OPC-M
• large (unlimited number of tags)    CYBRO-OPC-L

\* Latest addition available free for download at:
  http://www.cybrotech.co.uk

# Integra View

SCADA development environment



• Integra View for Windows and Internet is a powerful HMI/SCADA PC software package which transmits real-time and historical process data to the control room and forward. It is a generator of applications, so all control and management functions are already incorporated in the development tool. Integra View can operate with any Web server. OPC client interface can be used to connect the Integra View to the CyBro OPC server (included in the package) and the CyBro-2 system.
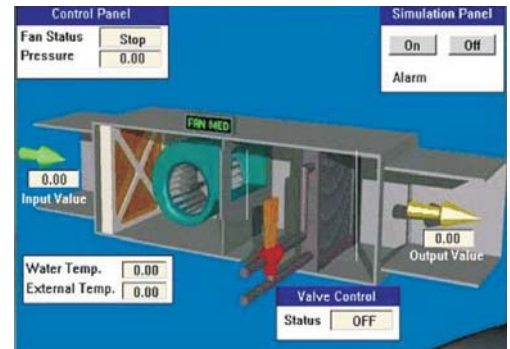
Integra View enables execution of applications in two ways:
• Integra View SCADA applications running on Windows NT / 2000 / XP
• Integra View Web-based SCADA applications, using standard Windows NT / 2000 / XP Web servers

Such Java applications are visible in Web browsers without any additional software or hardware keys. Integra View for Windows and Internet can operate with any Web server, making data immediately available to all users. A OPC client interface can be used to connect Integra View to the Cybro OPC server and Cybro PLC. Integra View includes a high-performance image rendering graphic interface, allowing the operator to control the entire process or a part thereof. It also comprises convenient analytical graphs that present the behaviour and trend of parameters in a specified time period. Backup data can also be easily displayed in graphs. The user simply changes the mode of the graph from on-line into history and backup data is immediately shown. The graphs also support different color-coding; hence, any data falling outside of a predefined area will be clearly indicated, allowing the user to quickly notice any anomalies in the system. Alarm can be generated by the user with the help of a formula that can include calculating operations or a comparative function with a very simple syntax. Alarms can be confirmed by the authorized user either locally from the SCADA station or via web. In case of an alarm, various response measures can be initiated, such as opening a particular image or starting up a third-parity application. Integra View enables simple production of web-supported SCADA without any special knowledge of HTML or Java. Web application setup is particularly easy owing to the use of Integra View wizard for conversion of the existing images into HTML format, which comprises Java applets for objects, alarms, and graphs.

Software

## Ordering information

Order Code:
• OPC license, 500 tags          SCADA-I-VIEW-500
• OPC license, 1000 tags         SCADA-I-VIEW-1000

# Warranty
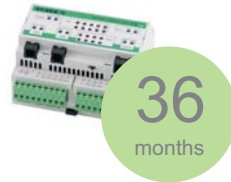## and EN standards info

## Controllers

### RC

36 months
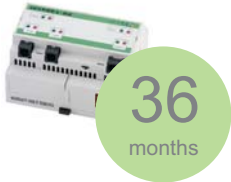
EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

### CyBro-2-24
### CyBro-2-230

36 months

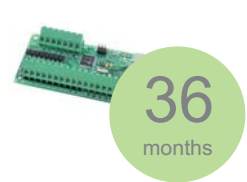EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

### uCyBro-2R
### uCyBro-2T

36 months

EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

### IPU

36 months

EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

## Modules

### Bio-24R
### Bio-24T
### Bio-8R4

36 months

EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

### AiR-12
### AiV-12
### AiC-12
### AoV-12

36 months

EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

### HR

36 months

EN 50090-2-2,
EN 50090-2-2/A1

### FC
### 8C

36 months

EN 50090-2-2,
EN 50090-2-2/A1

### O2

36 months

EN 50090-2-2,
EN 50090-2-2/A1

### TS

36 months

### LC-S
### LC-D
### LC-DC

36 months

EN 50090-2-2,
EN 50090-2-2/A1

### SW-L
### SW-W
### SW-W2

36 months

EN 50090-2-2,
EN 50090-2-2/A1

Warranty

## Sensors

ES
MS

36
months

THS02
CAD-POTI

36
months

LRI8143
LRM8114

12
months

EN 60950,
EN 50081-1,
EN 50082-1,
EN 55022

LRM8115

12
months

EN 60950,
EN 50081-1,
EN 50082-1,
EN 55022

## Operator panels

OP-1
OP-3

36
months

EN 50090-2-2,
EN 50090-2-2/A1

OP-2
OP-4

36
months

EN 61131-1,
EN 61131-2,
EN 50090-2-2,
EN 50090-2-2/A1

OPT04/05
OPT05E/08E
OPT10E/12E

36
months

EN 55011,
EN 50081-1,
EN 50082-1

WS-12

12
months

## Accessories

RE

36
months

CAD-232-A2

36
months

GSM-ETH-RT
GSM-T02

12
months

TD-101

36
months

Warranty

cybroTech

CAN-USB



12 months

CAD-BE
CAD-SPL



36 months

CAD-BA
CAD-CEX



36 months

RGB-D



36 months

EN 50090-2-2,
EN 50090-2-2/A1

## Power supply units

PS-30



12 months

EN 61558-1,
EN 50081,
EN 50082

PS-50



12 months

EN 61558-1,
EN 50081,
EN 50082

PS-80



12 months

EN 61558-1,
EN 50081,
EN 50082

# Contacts

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www.cybrotech.cn

## Your local partner

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# Notes

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