cybroTech

product overview

components for industrial, building and home automation

Integrated building automation systems

- lights, blinds
- heating, ventilation and air conditioning
- access control
- security and safety
- remote control & monitoring
- mobile phone base stations monitoring
- video monitoring
- telecommunication equipment monitoring
- people counting
- car parking
- traffic control
- water supply
- water monitoring
- whether stations
- sewage treatment
- environmental control systems

INTEGRA
BUILDING MANAGEMENT

- hotels
- hospitals
- airports
- shopping centers
- commercial buildings
- schools
- cinemas
- theatres
- casinos

Complete industry automation solutions

- food & beverage industry
- ironworks
- oil processing
- waste water treatment plants
- hydroelectric power plants
- sawmills
- harbors
- warehouses
- coalmines

- assembly machines
- tooling machine
- energy management
- conveyor belts
- oven temperature
- agriculture drives
- telemetry units
- photovoltaic systems

OEM solutions

- proven technology reshaped to OEM requirements
- high volume products
- private brand
- special communication protocols
- embedded solutions
- solution support available

Contacts

Headquarters

Cybrotech Ltd
14 Brinell Way
Harfreys Industrial Estate
Great Yarmouth
Norfolk, NR31 0LU - UK
tel: +386 (0)41 632 534

Branch offices

Cybrotech d.o.o.
Arja vas 19
3301 Petrovce
Slovenia
tel: +386 (0)3 713 1940
fax: +386 (0)3 570 7500

Cybrotech d.o.o.
OIC-Hrpelje 38
6240 Kozina
Slovenia
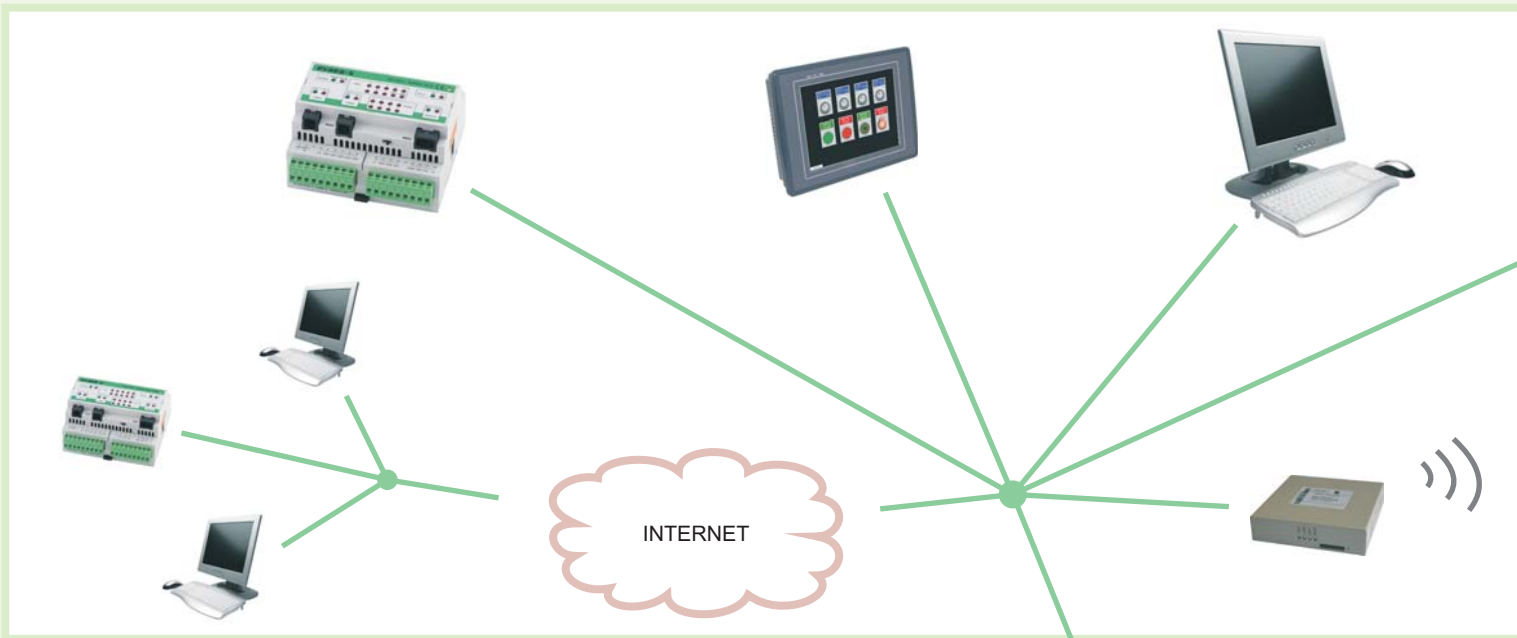tel: +386 (0)5 689 2020
fax: +386 (0)5 689 2039

Cybrotech d.o.o.
Bohinjska 11
10000 Zagreb
Croatia
tel: +385 (0)1 307 9239
fax: +385 (0)1 307 9900

Representative office

Wulumuqi Bei Rd. #199, Floor 20,
Room 2009, World Union Building
200040 Shanghai
China
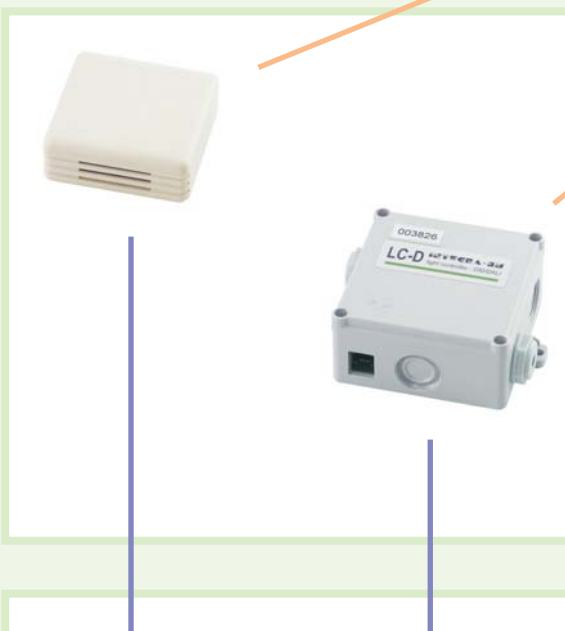tel: +86 (0)21 6249 0371
fax: +86 (0)21 6249 0372

www.cybrotech.co.uk • info@cybrotech.co.uk • support@cybrotech.co.uk

Your Partner

INTERNET

Cybro controller is the core building block of automation system. Cybro controller is always equipped with CAN interface to connect IEX modules. In addition to this Cybro controller may have local inputs, outputs and communication interfaces, with Ethernet being most important among them. Using Ethernet, controller can be programmed, monitored, remotely updated and managed over any kind of physical media including Internet.

CyPro is a development environment used for programming Cybro controllers and uses EN 61131-3 based programming language. Application generators and extensive libraries may reduce the need for programming, so most of the standard systems can be simply configured. On the other hand full system power is available to skilled programmers.

Modules: Wide range of IEX modules are available, covering every possible IO unit (digital, analog, RTD, temperature, moisture, illumination, presence), communication protocols (infrared, RS232, RS485, Ethernet, DSI, DALI, GSM, GPRS), operator panels (keypads, semi-graphics, touch screens, IR remote controller), dedicated high function modules (access control, inverter unit, RGB controller, fan-coil controller, hotel room controller, light controller, switch unit, park sensor module).

Modules can be either cabinet or field mounted.

Compatible with any high function remote controllers supporting Philips RC-5 code system

A-bus is proprietary high level network protocol. This compact and highly reliable protocol can be used with Ethernet TCP/IP or serial RS485 network standard. A-bus is perfect low cost choice for connecting CyBro controllers, touch screen panels and PC with SCADA tool. A-bus protocol is open protocol, so it can be used also in products from other vendors.
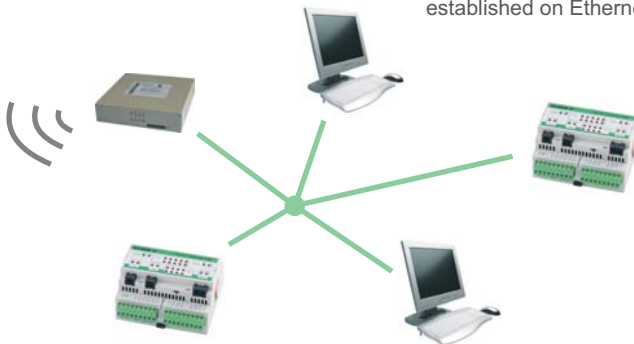
ModBus protocol is used to establish master-slave communication between intelligent devices. It is standard, truly open and the most widely used network protocol in the industrial manufacturing environment. ModBus protocol can be established on Ethernet or serial RS485 network.

RS485 technical specifications:
 - bus length: max. 1000m
 - number of devices: max. 32
 - baudrate: 19.2kbps

Ethernet technical specifications:
 - UTP cable length: max. 100m
 - cable autodetect: patch/crossover
 - number of devices: max. 255
 - baudrate: 10/100Mbps
 - TCP/IP protocols: UDP, DHCP, IPv4

GPRS

Compatibility to various other automation and security systems and protocols can easily be achieved with the use of an appropriate gateway.

GSM

IEX is proprietary low level network based on CAN (Controller Area Network) bus protocol. IEX protocol uses all advantages (reliability, speed) of CAN bus to connect different expansion units to CyBro-2 controller. Expansion modules have unique network addresses and when they are connected, modules are detected automatically - so there is no need for DIP-switch addressing.

IEX technical specifications:
 - bus length: max. 300m
 - number of devices: max. 31
 - baudrate: 20, 50,100 (default), 200, 500kbps - software
   selectable
 - topology: free

Accessories: Wide range of peripheral devices can be used with CyBro-2 modules. Connection/communication can be established through different types of input/output points on modules.

Controllers

Product	CYBRO-2-230 CYBRO-2-230-E	CYBRO-2-24 CYBRO-2-24-E	RC RC-E	uCYBRO-2R	uCYBRO-2T	IPU
Description	intelligent controller	intelligent controller	intelligent controller	micro controller	micro controller	inverter control unit
Power	85..260V AC, 50..60Hz 3.5W	24V DC 3.5W	24V DC 2W	24V DC 1.9W	24V DC 0.9W	from frequency inverter 100mA
Inputs	10 x opto-coupler 4 x (0..10V or 0..20mA), 2%	10 x opto-coupler 4 x (0..10V or 0..20mA), 2%		8 x opto-coupler 5 x pot 10k 2 x 0..10V, 0.1%	8 x opto-coupler 5 x pot 10k 2 x 0..10V, 0.1%	8 x opto-coupler 4 x 0..10V, 2%
Outputs	8 x relay, 5A, SPST 1 x 0..10V, 2%	8 x relay, 5A, SPST 1 x 0..10V, 2%		6 x PNP trans., 24V, 2A 1 x PWM, 24V, 1A	6 x PNP trans., 24V, 2A 1 x PWM, 24V, 1A	8 x PNP trans., 24V, 2A 1 x 0..10V, 2%
Features	64Kb flash 64Kb RAM 8Kb EEPROM RTC HSC (AB+Z)	64Kb flash 64Kb RAM 8Kb EEPROM RTC HSC (AB+Z)	64Kb flash 64Kb RAM 8Kb EEPROM RTC	64Kb flash 2Kb RAM 2Kb EEPROM	64Kb flash 2Kb RAM 2Kb EEPROM	64Kb flash 2Kb RAM 2Kb EEPROM
Communication ports	Ethernet* 2 x RS232 IEX	Ethernet* 2 x RS232 IEX	Ethernet* 2 x RS232 IEX	RS485 IEX	RS485 IEX	IEX
Programming	CyPro	CyPro	CyPro	C compiler	C compiler	C compiler
Mechanical	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 93 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20	104 x 53 x 24mm inside Hitachi frequency inverter

*E model only

Touch screen operator panels

Product	OPT-W04	OPT-W05E	OPT-W08E	OPT-W10E	OPT-W12E
Description	4.3'' touch screen panel	5.6'' touch screen panel	8'' touch screen panel	10.4'' touch screen panel	12.1'' touch screen panel
Power	12..28V DC 150mA at 24V DC	12..24V DC 220mA at 24V DC	24V DC 440mA	24V DC 440mA	24V DC 500mA
Features	4.3'' TFT LCD LED backlight 480 x 272 pixels 256 colors 2Mb flash	5.6'' TFT LCD LED backlight 320 x 234 pixels 65k colors 32Mb flash	8'' TFT LCD CCFL x 1 backlight 640 x 480 pixels 65k colors 32Mb flash	10.4'' TFT LCD CCFL x 2 backlight 640 x 480 pixels 65k colors 32Mb flash	12.1'' TFT LCD CCFL x 2 backlight 800 x 600 pixels 65k colors 32Mb flash
Communication ports	2 x RS232/485	Ethernet 3 x RS232/485 2 x USB 2.0	Ethernet 3 x RS232/485 3 x USB 2.0	Ethernet 3 x RS232/485 3 x USB 2.0	Ethernet 3 x RS232/485 3 x USB 2.0
Mechanical	128 x 102 x 38mm panel / flush box IP65 (front panel)	204 x 150 x 48mm panel / flush box IP65 (front panel)	240 x 179 x 50mm panel / flush box IP65 (front panel)	286 x 212 x 50mm panel / flush box IP65 (front panel)	322 x 243 x 51mm panel / flush box IP65 (front panel)

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IEX operator panels

Product	OP-1	OP-2	OP-3-T OP-3-TH	OP-4	OP-5-T OP-5-TH
Description	in-wall panel	industrial panel	on-wall panel	on-wall panel	on-wall panel
Power	24V DC 50mA	24V DC 40mA	24V DC 50mA	24V DC 50mA	24V DC 50mA
Inputs			1 x switch/pot 1 x temperature	4 x switch/pot 2 x temperature	1 x switch/pot 1 x temperature
Features	LCD 2 x 16, 5 x key temperature IR receiver, beeper	LCD 2 x 16, 5 x key	LCD 2 x 20, 5 x key 4 x LED temperature, humidity* IR receiver, beeper	LCD 2 x 20, encoder 4 x LED light sensor IR receiver, beeper	LCD 2 x 20, 5 x key temperature, humidity* IR receiver, beeper
Mechanical	140 x 80 x 48mm flush box M4 IP44	106 x 62 x 24mm panel IP54	120 x 80 x 48mm on-wall IP20	142 x 115 x 25mm on-wall IP20	136 x 96 x 25mm on-wall IP20

* TH model only

IEX I/O modules

Product	BIO-24R	BIO-24T	BIO-8R4-L BIO-8R4-B24	BIO-8R4-N	HR
Description	digital I/O	digital I/O	power digital I/O L for lights, B for blinds	power digital I/O for general purpose	hotel room module
Power	24V DC 160mA	24V DC 90mA	24V DC 150mA	24V DC 150mA	24V DC 200mA
Inputs	12 x opto-coupler	12 x opto-coupler	4 x mains	4 x mains	12 x switch 2 x temperature
Outputs	12 x relay, 5A, SPST	12 x PNP trans., 24V, 2A	8 x relay, 16A, SPDT	8 x relay, 16A, SPST	10 x relay, 5A, SPST
Mechanical	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20	106 x 108 x 58mm DIN rail (35mm) IP20

Product	AIC-12	AIR-12	AIV-12	AOV-12
Description	analog current inputs	analog resistive inputs	analog voltage inputs	analog voltage outputs
Power	24V DC 50mA	24V DC 50mA	24V DC 50mA	24V DC 150mA
Inputs	12 x 0..20mA, 0.1%	12 x resistive, 0.1%	12 x 0..10V, 0.1%	
Outputs				12 x 0..10V, 1%
Mechanical	53 x 108 x 58mm DIN rail (35mm) IP20	53 x 108 x 58mm DIN rail (35mm) IP20	53 x 108 x 58mm DIN rail (35mm) IP20	53 x 108 x 58mm DIN rail (35mm) IP20

touch of intelligence

Product	LC-DC	LC-D	LC-S	FC	8C
Description	digital light control	digital light control	analog light control	fan-coil control	digital I/O
Power	24V DC 140mA	24V DC 160mA	24V DC 100mA	24V DC 110mA	24V DC 100mA
Inputs	2 x switch motion, light, IR receiver	2 x switch 3 x pot motion, light, IR receiver	2 x switch 3 x pot motion, light, IR receiver	1 x switch 2 x temperature	4 x switch
Outputs	DALI	DALI 4 x DSI	4 x 0..10V	5 x relay, 5A, SPST	4 x relay, 5A, SPST
Mechanical	36 x 108 x 58mm DIN rail (35mm) IP20	108 x 86 x 46mm field mountable IP42	108 x 86 x 46mm field mountable IP42	108 x 86 x 46mm field mountable IP42	108 x 86 x 46mm field mountable IP42

Product	O2-L	SW-L	SW-W	SW-W2	TS TS-H
Description	switching lights	switch module	switch module	switch module	temperature sensor
Power	24V DC 85mA	24V DC 70mA	24V DC 50mA	24V DC 70mA	24V DC 15mA
Inputs		8 x switch	8 x switch 2 x switch / pot	4 x switch / pot	1 x temperature
Outputs	2 x relay, 16A, SPDT	4 x LED, 10mA	2 x LED, 10mA	4 x LED, 10mA	
Features					temperature humidity*
Mechanical	55 x 60 x 22mm flush box	89 x 44 x 38mm flush box	60 x 40 x 12mm flush box	50 x 50 x 15mm flush box	71 x 71 x 27mm on-wall IP30

*TS-H only

Sensors

Product	ES ES-W	THS02	MS-I MS-O	LRI8134	LRM8114	LRM8115 / 16 / 17
Description	temperature sensor	room thermostat	multisensor	multisensor	motion sensor	motion sensor
Power			12..24V DC	12..24V DC	12..24V DC	12..24V DC
Features	temperature	temperature thermostat 2 x switch	light measurement IR receiver	light measurement motion detection IR receiver	motion detection	motion detection
Mechanical	ES: on wire ES-W: 71 x 71 x 27mm, on-wall	86 x 86 x 32mm on-wall	80 x 80 x 35mm flush box in ceiling	72 x 72 x 28mm flush box in ceiling	72 x 72 x 28mm flush box in ceiling	70 x 66 x 73mm on-wall

Accessories

Product	CAD-232-A2	GSM-T02	GPRS-ETH	RE
Description	A-bus converter	GSM modem	GPRS Ethernet router	remote control
Features	RS232 to RS485 conv.	GSM850EGSM900/DCS1800/PCS1900 AT commands	10/100 BaseT Ethernet DHCP server dual band GPRS or CDMA	11 x keys IR range 5m
Mechanical	36 x 99 x58mm DIN rail (35mm) IP20	122 x 68 x 22mm surface mounting	98 x 100 x 23mm surface mounting	58 x 120 x 26mm

Product	CAD-BE	CAD-BA	CAD-SPL	CAD-TP2x2
Description	bus expander	bus adapter	bus splitter	IEX cable
Features	2 x RJ9 IEX conn. 1 x wires IEX conn.	RJ9 to wires IEX conv.	3 x RJ9 IEX conn.	2 x twisted pair
Mechanical	36 x 99 x58mm DIN rail (35mm) IP20	65 x 25 x 18mm	31 x 35 x 26mm	$2 \times 0.25mm^2 + 2 \times 0.75mm^2$ diameter 7mm

Power supplies

Product	PS-30-V05	PS-30-V12	PS-30	PS-50	PS80
Input	230 V AC	230 V AC	230 V AC	230 V AC	230 V AC
Output	5V DC, 3.8A	12V DC, 2.4A	24V DC, 1.3A	24V DC, 2.75A	24V DC, 5A
Mechanical	53 x 90 x 58mm DIN rail (35mm) IP20	53 x 90 x 58mm DIN rail (35mm) IP20	53 x 90 x 58mm DIN rail (35mm) IP20	89 x 90 x 58mm DIN rail (35mm) IP20	140 x 93 x 66mm DIN rail (35mm) IP20

Software

CyPro

CyPro is a software package for programming CyBro-2 controllers. It runs under Microsoft Windows 2000/XP/Vista. CyPro is a fully featured IDE (integrated development environment) containing editor, compiler and on-line monitor.

CyPro is based on IEC 1131-3 standard. CyPro implements instruction list and structured text programming, extended with several visual tools.

CyPro is freeware available on www.cybrotech.co.uk.

CyBro OPC Server

CyBro OPC Data Access Server enables OPC clients (SCADA) to connect to CyBro-2 controllers. OPC client may read or write any location from the complete memory space.

It runs under Microsoft Windows 2000/XP/Vista.

CyBro OPC (Evaluation license / up to 10 tags) available on www.cybrotech.co.uk.

Integra View

Integra View for Windows is a powerful SCADA software packet which can show real-time and historical data of the process.

Integra View can operate as web server where data is immediately available to everybody. Through OPC interface, Integra View can be connected to CyBro OPC server, and then to CyBro controllers.

info@cybrotech.co.uk