Lumity™
Programmable Solutions

Programmable controllers and
development tools for HVAC/R applications

LUMITY™

EMERSON™

Programmable controllers and development tools for HVAC/R applications

The Lumity™ iPro platform of programmable controllers offers complete solutions for the management of HVAC/R applications. These controllers are suited for compressor racks, chillers, heat pump units, AHU, all applications in PLC word including shopping centers, hospitals, airports, and more. This range consists of programmable controllers, expansion modules, user interfaces, enhanced development tools, and cloud management.
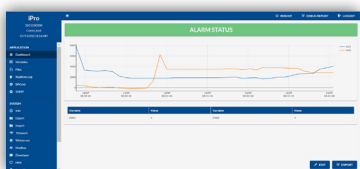
The iProGENIUS series is designed for all retail and food service needs, as well as for HVAC applications. This renewed family stands out for its powerful hardware platform and ease of external connectivity and programmability, while offering local or remote monitoring control.

A smart approach to develop applications is a key point for this range of products; to allow this, we provide: a powerful Platform, advanced Programming Tools, a responsive Control Panel and the Cloud Management. This is **the New iPro System**, enabling the iProAcademy team to promote continuous growth of the iPro globally.

CONTROL PANEL
- Customizable dashboard
- Improved security
- Great responsivity
- High interactivity

PLATFORM
- Powerful hardware
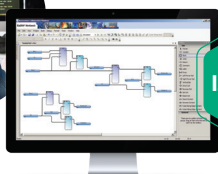- Great versatility
- Easy maintenance
- Full control

CLOUD MANAGEMENT
- Always connected
- Efficient data analytics
- Advanced data collection

PROGRAMMING TOOL

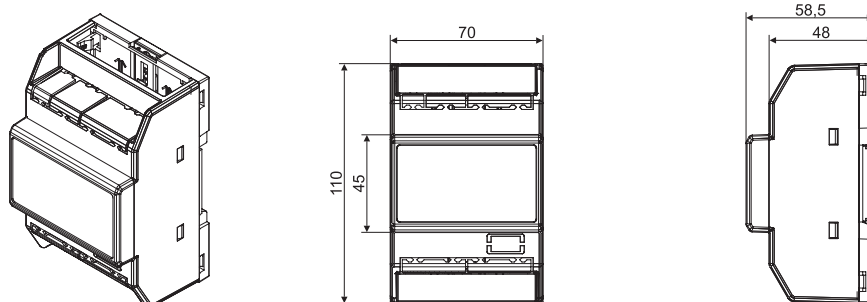ISaGRAF
- Powerful engine
- Extensive documentation
- Easy teamwork

Programmable controllers in 4 DIN Rail format and connectivity module

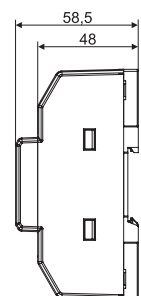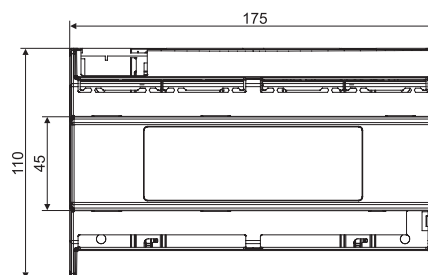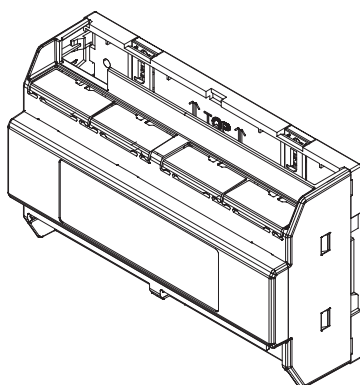| FEATURES	IPG108D	IPG108E	IPG208D	IPG208E	IPL500D
Format	4 DIN Rail	4 DIN Rail	4 DIN Rail	4 DIN Rail	4 DIN Rail
Display		dual + icons		dual + icons	
Power supply	24Vac/dc from TF40D	24Vac/dc from TF40D	24Vac/dc from TF40D	24Vac/dc from TF40D	24Vac/dc from TF20D
Probe inputs	6 config	6 config	6 config	6 config	
Optoinsulated digital inputs	11 config	11 config	11 config	11 config	
Configurable relay outputs	8x5A	8x5A	8x5A	8x5A	
Other outputs					
0÷10V or 4÷20mA	4 config	4 config	4 config	4 config	
RS485	pres	pres	pres	pres	pres
USB	pres	pres	pres	pres	pres
LAN/RS485	pres	pres	pres	pres	pres
CANbus					pres
Ethernet	via USB-ETH-CONV	via USB-ETH-CONV	via USB-ETH-CONV	via USB-ETH-CONV	pres
Other					
Remote display output	pres	pres	pres	pres	pres
Real time clock	pres	pres	pres	pres	pres
Flash memory	512MB	512MB	512MB	512MB	512MB
Connections	disconnectable + screw	disconnectable + screw	bayonet + screw	bayonet + screw	screw
Connection kit	DWS30-KIT, IP-FC108	DWS30-KIT, IP-FC108	IP-FC208	IP-FC208	IP-FC500
BACnet® protocol	opt	opt	opt	opt	opt

4 DIN Rail DIMENSIONS

Enhanced programmable controllers in 10 DIN Rail format

HIGH PERFORMANCES FOR COMPLEX UNIT

FEATURES	IPG115D	IPG215D	IPG315D	IPG808D
Format	10 DIN Rail	10 DIN Rail	10 DIN Rail	10 DIN Rail
Power supply	24Vac/dc from TF20D	24Vac/dc from TF20D	24Vac/dc from TF20D	24Vac/dc from TF20D/TF40D
Probe inputs	10 config	10 config	10 config	7 config
Optoinsulated digital inputs	20 config	20 config	20 config	6 config
Configurable relay outputs	12x5A + 3x8A or 9x5A + 1x8A + 5xSSR	15x5A	15x5A or 10x5A + 5xSSR	5x16A + 3x8A
Other outputs				
PWM/0÷10V/4÷20mA				1 config
0÷10V or 4÷20mA	2 config	2 config	2 config	2 config
0÷10V	4	4	4	
RS485	2	2	2	pres
USB	1 host	1 host	1 host	1 host
RS232	opt	opt	opt	
LAN/RS485				pres
CANbus	pres	pres	pres	
Ethernet	pres	pres	pres	via USB-ETH-CONV
Other				
Remote display output	pres	pres	pres	pres
Unipolar valve output				pres
Real time clock	pres	pres	pres	pres
Flash memory	512MB	512MB	512MB	512MB
Connections	disconnectable	bayonet + screw	disconnectable + screw	screw
Connection kit	DWB30-KIT	IP-FC215CP	DWB315-KIT, IP-FC315	IP-FCXB800
BACnet® protocol	opt	opt	opt	opt

10 DIN Rail DIMENSIONS

175

110

45

58,5

48

Full Programmable controllers in 10 DIN Rail format

MAXIMUM CONNECTIVITY TO CONTROL ALL THE DEVICES IN THE FIELD

FEATURES	IPG115D	IPG215D	IPG315D
Format	10 DIN Rail	10 DIN Rail	10 DIN Rail
Power supply	24Vac/dc from TF20D	24Vac/dc from TF20D	24Vac/dc from TF20D
Probe inputs	10 config	10 config	10 config
Optoinsulated digital inputs	20 config	20 config	20 config
Configurable relay outputs	12x5A + 3x8A or 9x5A + 1x8A + 5xSSR	15x5A	15x5A or 10x5A + 5xSSR
Other outputs			
PWM/0÷10V/4÷20mA			
0÷10V or 4÷20mA	2 config	2 config	2 config
0÷10V	4	4	4
RS485	4	4	4
USB	2 host + 1 device	2 host + 1 device	2 host + 1 device
RS232	opt	opt	opt
LAN/RS485			
CANbus	pres	pres	pres
Ethernet	pres	pres	pres
Other			
Remote display output	pres	pres	pres
Unipolar valve output			
Real time clock	pres	pres	pres
Flash memory	512MB	512MB	512MB
Connections	disconnectable	bayonet + screw	disconnectable + screw
Connection kit	DWB30-KIT	IP-FC215CP	DWB315-KIT, IP-FC315
BACnet® protocol	opt	opt	opt

Expansion modules

FEATURES	IPX106D	IPX115D	IPX125D	IPX206D
Format	4 DIN Rail	10 DIN Rail	10 DIN Rail	4 DIN Rail
Power supply	24Vac/dc from TF10D	24Vac/dc from TF20D	24Vac/dc from TF20D	24Vac/dc from TF10D
Probe inputs	7 config	10 config	10 config	7 config
Optoinsulated digital inputs	3 config	20 config	20 config	3 config
Configurable relay outputs	6x5A	12x5A + 3x8A	18x5A + 3x8A + 4xSSR	5x5A + 1x8A or 4x5A + 1x8A + 1xSSR
Other outputs				
0÷10V or 4÷20mA		2 config	2 config	
0÷10V	3	4	4	3
LAN	pres	pres	pres	pres
CANbus	pres	pres	pres	pres
Other				
Dip switch for address set	pres	pres	pres	pres
Connections	disconnectable	disconnectable	disconnectable	bayonet + screw
Connection kit	DWEX60-30KIT	DWX115-30KIT	DWEX70-30KIT	IP-FCEX60

Interfaces

IPCH

- Programmable LED keyboard
- 3 digits + icons
- Panel mounting

V2IPG

- LCD with 240x96 pixels
- Power supply: from controller
- On board temperature/humidity probe (optional)
- Visokey output
- Buzzer (optional)
- ASCII or UNICODE
- Wall or panel mounting

VTIPG

- Programmable TFT touch screen displays
- 4.3" display - 480x272 pixels
- 256 (8 bit) colors
- Power supply: 12-24 Vac/dc
- RS485 output
- LAN port
- USB output
- Buzzer
- Wall or panel mounting

FEATURES	IPX215D	IPX225D	IPX306D	IPX315D	IPX325D
Format	10 DIN Rail	10 DIN Rail	4 DIN Rail	10 DIN Rail	10 DIN Rail
Power supply	24Vac/dc from TF20D	24Vac/dc from TF20D	24Vac/dc from TF10D	24Vac/dc from TF20D	24Vac/dc from TF20D
Probe inputs	10 config	10 config	7 config	10 config	10 config
Optoinsulated digital inputs	20 config	20 config	3 config	20 config	20 config
Configurable relay outputs	15x5A	21x5A + 4xSSR	5x5A + 1x8A or 4x5A + 1x8A + 1xSSR	15x5A or 10x5A + 5xSSR	21x5A + 4xSSR or 16x5A + 9xSSR
Other outputs					
0÷10V or 4÷20mA	2 config	2 config		2 config	2 config
0÷10V	4	4	3	4	4
LAN	pres	pres	pres	pres	pres
CANbus	pres	pres	pres	pres	pres
Other					
Dip switch for address set	pres	pres	pres	pres	pres
Connections	bayonet + screw	bayonet + screw	disconnectable + screw	disconnectable + screw	disconnectable + screw
Connection kit	IP-FCX215	IP-FCEX70	DWEX60-30KIT, IP-FCX306	DWX315-30KIT, IPFCX315	DWX325-30KIT, IPFCX325

EEV drivers

XEV20D

Driver for 1 or 2 unipolar and bipolar stepper electronic expansion valves.

- Format: 4 DIN Rail
- Power supply: 24Vac/dc (from TF20D/TF40D)
- Probe inputs: 4 config
- LAN output
- CANbus output
- Dip switch address selection
- DWXEV30 connection kit

XEC

XEC EVO and XEC PRO are the backup modules for valve closing and for the power supply of iPro controllers in case of blackout.

- Format: 4 DIN Rail
- Power supply: 24Vac/dc (XEC EVO), 24Vac (XEC PRO)

THE iProAcademy TEAM

The iProAcademy is a Center of Excellence that combines INNOVATION REQUESTS received from the market with TECHNOLOGICAL OPPORTUNITIES, guaranteeing continuous growth of the iPro Platform.

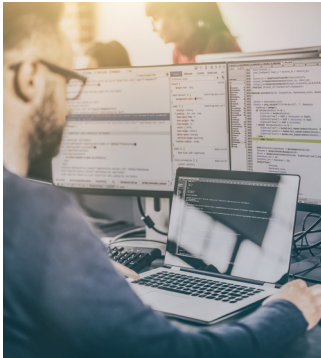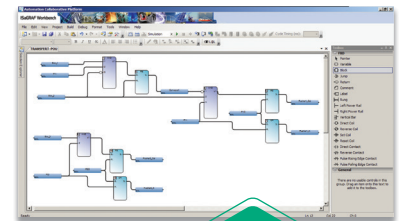The iPro Academy team CREATES, TRAINS, COORDINATES, and SUPPORTS developers.

This constant support is given by the Team through several instruments that allow iPro users to develop their applications from the beginning to the market release.

ADVANCED PROGRAMMING TOOLS

Easy to use programming tools allow users to work independently to create applications for iPro controllers.

The iPro-TOOL includes manuals and the ISaGRAF®, WIZMATE and VISOPROG (optional) software. In particular, the ISaGRAF® tool contains a modern philosophy of an open environment, based on the concept that each element is a plugin; the new version offers:
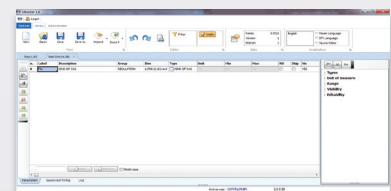
- Powerful engine
- Exhaustive manuals (complete ISaGRAF guide, Bios functionalities guide, FAQ short-guide, and more)
- Modular architecture that allows the highest level of customization
- Possibility to work on different projects at the same time
- Reduced writing-time of the code

ISaGRAF

Programming tools

LIB BUILDER

Programming tool designed to create parameter maps in an easy and fast way for third-party devices for XWEB PRO and WIZMATE.
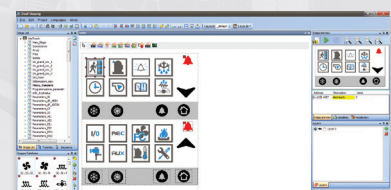
WIZMATE PROG-TOOL KIT

Tool developed to modify programming parameters of the instrument in an easy and fast way by WIZMATE software.

VISOPROG

Programming tool designed to develop user interfaces for VISOGRAPH and VISOTOUCH. Thanks to the many available functions it is possible to create very simple and intuitive user interfaces based on customer's needs.

TAILORED EFFICIENCY TRAININGS

We organize focused trainings depending on different levels and needs using advanced training methods: Online, Classroom, On demand trainings. All iPro users can attend specific trainings concerning Template, Platform, Function Blocks and Applications, directly from their desk, significantly reducing related costs of time and travel.

- Access to recorded session so no details are missed
- Live sections to attend in real-time
- Training material always available online

DEDICATED SECTION on iProAcademy WEBSITE

The importance of gathering all information together is a key element to maintain constant connection with all developers. This need has been translated in a fully dedicated section on the new iProAcademy website, that allows users to be always up-to-date, choose the right training, and easily enroll and download the required material.

CONTROL PANEL with a CUSTOMIZABLE DASHBOARD

iPro users can decide how to show relevant values of their application by customizing the brand-new first page of the control panel, without having to develop an HTML interface.

Available applications

RACK APP

The compressor RACK application is designed for the management of racks with standard refrigerants, CO_2 subcritical applications and transcritical CO_2 booster systems controlling heat recovery system and parallel compression. It manages compressor racks with up to 2 circuits and 12 compressors per circuit.

Controllers: IPR208D/IPRC208D, IPR215D/IPRC215D/IPRC315D
Expansions: IPX206D & IPX215D
Inferfaces: V2IPR & VTIPR

AHU APP

The application for AHU ensures optimal control of the temperature, humidity, pressure, air quality and flow, for accurate regulation both in conditioning and in process. The complete management of the most advanced construction technologies (heat exchanger, variable flow rate, and more...) ensures high energy efficiency performance.

Controllers: IPG208D A01 & IPG215D A01
Expansions: IPX206D & IPX215D
Inferfaces: V2IPG & VTIPG
Probes: AP

CHILLER & HEAT PUMP APP

The CHILL application for all chiller and heat pump units up to 4 circuits and 16 compressors, is the ideal solution also for the most complex units and can manage system such as: air/air, air/water and motor condesing.

Controllers: IPC108D/IPC108E & IPC115D/IPC315D
Expansions: IPX106D & IPX306D
Inferfaces: V2IPC & VTIPC

DRY COOLER APP

The application for the control of DRY COOLER units add to the regulation of ventilation a high-performing management of pump stations, adiabatic cooler and heat exchanger. The flexibility of the application allows to use it in several application combinations.

Controllers: IPG208D W01 & IPG215D W01
Expansions: IPX206D & IPX215D
Inferfaces: V2IPG & VTIPG

High connectivity

EXPANSION MODULES

EEV DRIVER

EEV

CANbus / LAN

ETHERNET | BACnet™ / ModBUS® / TCP/IP
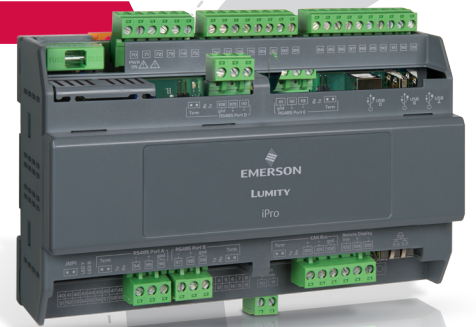
SMS/E-MAIL

- Alarm messages

ROUTER

- Remote connection

HTTP/FTP

- Data transfer

ETHERNET

XWEB SYSTEM

- Supervision, analysis and alarm management

SMARTPHONE/PC/TABLET

- Configuration, supervision, data/parameter download and more

3rd PARTY DEVICES

- Easy management of 3rd party devices

Accessories

UNIVERSAL KIT SIMULATOR

Universal simulator for inputs and outputs designed to test the applications developed in the HVAC/R world. Thanks to this device and to its wide range of available wirings, it is possible to test several boards changing only the wiring that is connected to the simulator. 110 or 230Vac power supply.

PROBES and ACCESSORIES

A complete family of probes, transducers, leak detectors and accessories (transformers, connectors and more) ensures for every need the right solution.

TOUCHER

USB

- Data download
- Upgrade
- Storage memory
- Nano Wi-Fi connection (only for 10 DIN format)
  - SMS/e-mail
  - Connection to Wi-Fi network

INTERNAL WEB SITE

- Customizable web pages
- HTML and Javascript supported
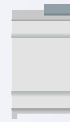- CGI available for variables management

RS485 / RS232 | BACnet™ / ModBUS®

ENERGY METER

- Consumption data/analysis
- Electrical data

3rd PARTY DEVICES

- Easy management of 3rd party devices

GATEWAYS

- LON

MASTER/SLAVE

- Up to 10 slave units

MODEM

- Internet connection
- SMS/e-mail

Adapters

USB-ETH-CONV

USB-Ethernet adapter for iPro controllers in 4 DIN format (not for IPL500D)

XJ485USB-KIT

USB-RS485 converter (2 wires) which allows to monitor one or more controllers networked to a computer

NANO-Wi-Fi

USB-Wi-Fi adapter for Wi-Fi network connection (only for 10 DIN format)

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