CATALOGUE PERIPHERALS and ACCESSORIES

03/08/2011

ISAC

All that technology can do.

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Azienda con sistema di qualità certificato UNI EN ISO 9001:200

Summary

This catalogue describes the peripheral devices and accessories that can be installed on the central unit of CNC, PAC and Industrial PC of ISAC SRL

For further information about central units see General Catalogue.

ISAC S.r.l. reserves the right to modify and improve its own products. Therefore all data are indicative.

OPERATOR INTERFACE (HMI)

All central units can be configured with different operator interfaces (boards), aimed to satisfy the most common needs (listed below) in order to maximize flexibility and operative comfort.

- Decentralized solution
- Large or reduced dimensions of the display, according to the needs.
- Economic solution
- Touch screen solutions
- Solution with integrated mouse
- Push-button with machine commands and handled dashboard with machine commands and function keys (See accessories on CANopen interface)

- The distance between central unit and display (operator panel) can be from 2,5 to 100 meters. Operator panels placed over 5 mt, need an independent 24 Vdc voltage.
- All the screens are TFT colour display, Are available in several sizes: 4,3”/ 5,7”/ 12”/ 15” having QVGA (320x240), VGA(640x480), SVGA(800x600), XGA (1024x768) resolutions. Handheld devices are equipped with TFT screen of 3,5”.
- Economic packages can be achieved using small screens and standard keyboard and mouse.
- The Touch Screens are resistive type 5 wires, connected via USB.
- Using the Touch screen capabilities and a ‘virtual Keyboard’ (OPVIRKEYB0) software no needs for a “physical” keyboard.
- All operator panels are IP65 on operator side (except standard keyboards and mouse).
- The panel with machine commands (push-button) can be tailored for application needs: this panel can be connected to the CNC via CANopen port.
- The boards are connected to the central unit via different cables types: Coaxial VGA or LVDS for the screen, USB cable for keyboard and accessories, CANopen cable for machine commands. For further information on cables see the accessories section.

General technical characteristics

- Protection IP65 on operator side (IP20 for rear side).
- Working temperature: 0 … +45 centigrade degrees.
- Storing temperature:–20 … +70 centigrade degrees
- Maximum humidity: 90% with no condensation.

- CNC Boards and Keyboards ready for fixing on the cabinet (Boring quote available on documentation).

Operator Panels

4,3”

OPMMILVDS18

HEIGHT	145,0 mm
WIDTH	145,0 mm
DEPTH	35,0 mm

OPMMILVDS18 =
Is equipped with a 4.3”TFT touch screen colour monitor, having 480 x 272 pixels resolution. Has a LVDS interface port, so the maximum cable length is 5 meters.
An USB port (protected by plastic cover) on operator side is available.

Details:
- viewing angle Horizontal 140°;
- viewing angle Vertical 120°;
- luminance 450 cd/m2;
- contrast ratio 400;
- backlight CCFL.

5,7”

OPMMILVDS14

HEIGHT	160,0 mm
WIDTH	200,0 mm
DEPTH	43,0 mm

OPMMILVDS14 =
Is equipped with a 5.7”TFT touch screen colour monitor, having VGA (640 x 480 pixels) resolution. Has a LVDS interface port, so the maximum cable length is 5 meters.

Details:
- viewing angle Horizontal 160°;
- viewing angle Vertical 150°;
- luminance 400 cd/m2;
- contrast ratio 600;
- backlight LED.

10,4”

OPMMILVDS22

HEIGHT	260,0 mm
WIDTH	320,0 mm
DEPTH	57,0 mm

OPMMILVDS22 =
Is equipped with a 10.4” TFT touch screen colour monitor, having SVGA (800 x 600 pixels) resolution. Has a LVDS interface port, so the maximum cable length is 2,5 meters.

Details:

- viewing angle Horizontal 160°;
- viewing angle Vertical 140°;
- luminance 450 cd/m2;
- contrast ratio 700;
- backlight LED.

12,1”

OPMMILVDS1 / OPMMILVDS4

HEIGHT	240,0 mm
WIDTH	482,0 mm
DEPTH	41,0 mm

OPMMILVDS1
Is equipped with a 12”TFT colour monitor, having SVGA (800x600 pixels) resolution. Has a LVDS interface port, so the maximum cable length is 5 meters. Ready to accept an USB HUB device (with wall fixing).

OPMMILVDS4
Is equipped with a 12”TFT touch screen colour monitor, having SVGA (800x600 pixels) resolution. Has a LVDS interface port, so the maximum cable length is 5 meters. Ready to accept an USB HUB device (with wall fixing).

Details for OPMMILVDS1 and OPMMILVDS4:

- viewing angle Horizontal 140°;
- viewing angle Vertical 110°;
- luminance 450 cd/m2;
- contrast ratio 600;
- backlight CCFL.

OPMMILVDS17 / OPMMIVGA4

HEIGHT	300,0 mm
WIDTH	370,0 mm
DEPTH	47,0 mm

Equipped with a 12.1”TFT colour touch screen monitor, having SVGA (800x600 pixels) resolution. On the rear side, USB HUB with 4 ports, while 2 USB ports (protected by plastic cover) available on front side. External +24Vdc power supply required.

Available in two models

- **OPMMILVDS17**
  LVDS interface, cable length up to 2,5 mt.

- **OPMMIVGA4**
  VGA interface, cable length up to 40 mt. (through USB transmitter). It’s also possible carry VGA and USB signals up to 100 mt. through correct transmitting/receiving devices (+ 2 cables of FTP type).

Details for OPMMILVDS17 and OPMMIVGA4:

- viewing angle Horizontal 140°;
- viewing angle Vertical 110°;
- luminance 450 cd/m2;
- contrast ratio 600;
- backlight CCFL.

OPMMILVDS24

HEIGHT	300,0 mm
WIDTH	370,0 mm
DEPTH	47,0 mm

OPMMILVDS24
Equipped with a 12.1”TFT colour touch screen monitor, having SVGA (800x600 pixels) resolution.
It has LVDS interface and the maximum cable length is 2,5 mt.

Details:

- viewing angle Horizontal 140°;
- viewing angle Vertical 110°;
- luminance 450 cd/m2;
- contrast ratio 600;
- backlight CCFL.

15,1”

OPMMIVGA0

HEIGHT	400,0 mm
WIDTH	482,0 mm
DEPTH	60,0 mm

OPMMIVGA0
Equipped with a 15”TFT colour monitor, having XGA (1024x768 pixels) resolution plus a CNC complete QWERTY keyboard.
External +24Vdc power supply required.
VGA interface, cable length up to 40 mt. (through USB transmitter). It’s also possible carry VGA and USB signals up to 100 mt. through correct transmitting/receiving devices (+ 2 cables of FTP type).

OPMMIVGA1 / OPMMIVGA2 / OPMMILVDS19

HEIGHT	288,0 mm
WIDTH	482,0 mm
DEPTH	60,0 mm

OPMMIVGA1 / OPMMIVGA2
Equipped with a 15”TFT colour monitor, having XGA (1024x768 pixels) resolution plus 6 USB ports (for cabling longer than 5 meters, an USB extender is required).
External +24Vdc power supply required.
The OPMMIVGA1 has touch screen monitor.
VGA interface, cable length up to 40 mt. (through USB transmitter). It’s also possible carry VGA and USB signals up to 100 mt. through correct transmitting/receiving devices (+ 2 cables of FTP type).
Details:

- viewing angle Horizontal 160°;
- viewing angle Vertical 135°;
- luminance 260 cd/m2;
- contrast ratio 350;
- backlight CCFL.

OPMMILVDS19
Equipped with a 15”TFT touch screen colour monitor, having XGA (1024x768 pixels) resolution plus 6 USB ports.
External +24Vdc power supply required.
LVDS interface, cable length up to 2.5 mt.
Details:

- viewing angle Horizontal 160°;
- viewing angle Vertical 160°;
- luminance 450 cd/m2;
- contrast ratio 700;
- backlight CCFL.

OPMMIVGA6 / OPMMILVDS23

HEIGHT	316,0 mm
WIDTH	400,0 mm
DEPTH	57,0 mm

OPMMIVGA6

Equipped with a 15” TFT touch screen colour monitor, having XGA (1024x768 pixels) resolution plus 4 USB ports (for cabling longer than 5 meters, an USB extender is required).
External +24Vdc power supply required.
VGA interface, cable length up to 40 mt. (through USB transmitter). It’s also possible carry VGA and USB signals up to 100 mt. through correct transmitting/receiving devices (+ 2 cables of FTP type).
Details:

- viewing angle Horizontal 140°;
- viewing angle Vertical 125°;
- luminance 350 cd/m2;
- contrast ratio 700;
- backlight CCFL.

OPMMILVDS23

Equipped with a 15” TFT Touch Screen colour monitor, having XGA (1024x768 pixels) resolution.
It has LVDS interface and the maximum cable length is 2,5 mt
(Note: with Q central Unit and OPCPUETX05 the maximum length cable is 1,5 mt).

Details:

- viewing angle Horizontal 160°;
- viewing angle Vertical 160°;
- luminance 450 cd/m2;
- contrast ratio 700;
- backlight CCFL.

Keyboards and Mouse

OPKEYBIP65 / ·OPKEYMIP65

HEIGHT	177,0 mm
WIDTH	482,0 mm
DEPTH	26,0 mm

OPKEYBDESK2

- OPKEYBDESK2 = Standard PC keyboard English language, USB interface, black colour.
- OPKEYBIP65 = CNC keyboard, USB interface, (+ PS/2 port for mouse).
-
- OPKEYMIP65 = CNC keyboard, USB interface, (+ PS/2 port for mouse). It is equipped with a capacitive mouse (and the selection keys L and R).

- OPMOUSE1 = Standard optical Mouse, USB interface.

PLC INTERFACE (I/O)

The PLC interface is available on “units” equipped with CANopen BUS (DS-401 profile). ISAC produces two models:

- **Open Frame Model**: Units available with digital and analogical I/O. Can be hosted on DIN guide; suitable either for the housing inside of electrical panel or for being placed on the plant or machine (proper protection required).
- **Protected Model**: Units with digital I/O having IP67 degree of protection.

Open Frame

The input and output units can be configured and located on “the field” depending on the needs. They can be located in groups. Every group is driven by a Node; inside a group several types of units can be hosted, (such as analogical/digital I/Os and pulse counter.

Units description.

- A 24 Vdc power supply is required (except OPADCAN0 and OPBASIOCAN6).
- All terminal boards of input and output modules are equipped with removable terminals, with spring connection, for the wiring of signal and power supply (the terminals of BASIOCAN5 and BASIOCAN6 units are equipped with screw contacts)
- All terminal boards are suitable for an OMEGA guide.

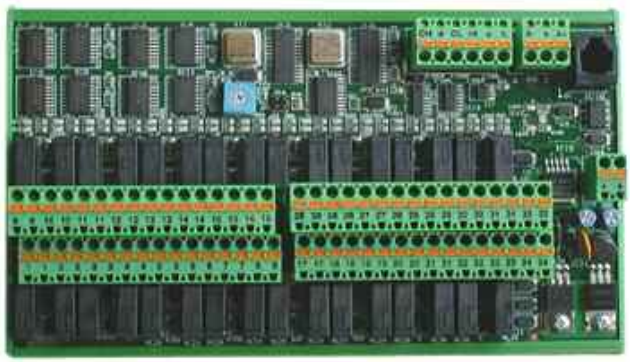
Terminal Boards	Description
OPBASOCAN0	CANopen node unit. It provides: ▪ 32 Digital Outputs with neat relay range 110Vac-1A / 30Vdc-5A, ▪ 1 Analogical Output (-10V ÷ +10V, resol. 12 bit). Led for signalising (signal status, diagnostic).
OPBASICAN0	CANopen node unit. It provides: ▪ 48 Digital Inputs PNP 24Vdc, ▪ 3 Analogical Inputs (0 ÷ +10V, resol. 10 bit). Led for signalising (signal status, diagnostic).
OPBASIOCAN1 OPBASIOCAN2	CANopen node unit. It provides: ▪ 48 Digital Inputs PNP 24Vdc, ▪ 5 Voltage Analogical Inputs (0 ÷ +10 V, resol. 12 bit), ▪ 1 Current Analogical Inputs (4 ÷ 20mA, resol. 12 bit), ▪ 1 Counting Input (TTL levels compatible with type Line-Driver and Push-Pull, maximum frequency input1 MHz (and max. freq. Counting 4 MHz), resol. 16 bit, output transducer supply 5V – 100 mA). ▪ Digital Output in function of model : o OPBASIOCAN1: 32 neat contacts of relay with range 110Vac - 5A / 24Vdc-5 A; o OPBASIOCAN2: 30 outputs of type Mosfet , 2 A for each output, protected against overcurrent 2 outputs neat contacts of relay with range 110Vac - 5A / 24Vdc-5 A; ▪ 2 Analogical Output (-10 ÷ +10 V, resol. 12 bit). Led for signalising (Inputs/Outputs status, diagnostic, settings) and two digit display for card address showing.

OPBASIOCAN5	CANopen node unit. It provides signals: ▪ 16 Digital Inputs PNP 24Vdc, ▪ 2 Voltage Analogical Inputs (0 ÷ +10 V, resol. 12 bit), ▪ 16 Digital Output type Mosfet 24/2A for each output, protected against short-circuit. Two of this digital output are available also of relè type (with range 110Vac - 5A / 24Vdc-5 A ▪ 1 Analogical Output (-10 ÷ +10 V, resol. 12 bit). The connectors of input/Output signals are equipped with extractable terminals with picth 3,81 and screw connectors. The module is provided of Led for signalising (Inputs/Outputs status, diagnostic, settings) and two digit display for card address showing. The module allows to connect till two expansion units (see diagram below) in order to increase the number of inputs and outputs.
OPBASIOCAN6	Expansion unit for CANopen node (only for OPBASIOCAN5). It provides signals: ▪ 16 Digital Inputs PNP 24Vdc, ▪ 16 Digital Output type Mosfet 24/2A for each output, protected against short-circuit (separated common for group of 4 elements) The module is provided of Led for signalising (Inputs/Outputs status). The connectors of Input/Output signals are equipped with extractable terminals with picth 3,81 and screw connectors.
OPNOCANC0	CANopen node unit. Includes 1 analogical output (0 ÷ +10 V, resol. 12 bit). The module allows to connect up to expansion units (see diagram below)
OPIOCAN0	Expansion unit for CANopen node. It provides : ▪ 1 output with neat contact range 110Vac-1A / 30Vdc-5A, ▪ 7 outputs of type transistor PNP range 24 Vdc-0,5 A, protected against short-circuit ▪ 16 opt-isolated PNP digital inputs 24 Vdc. Led for signalising (signal status, diagnostic). It can be configured with 24 inputs and no outputs.
OPADCAN0	Expansion unit for CANopen node. It offers 8 analogical inputs: input signal is 0 ÷ 10 Vdc, resol. 12 bit. Available connector for ADCAN (OPKITADCAN0: movable connector type D 15 pin Male)
OPCVCAN0	Expansion unit for CANopen node. It offers 3 fast impulse counters: input signal is of encoder type, TTL levels compatible with Line-Driver and Push-Pull, resol. 16 bit, max. freq. input 300 KHz (and so max. freq. counting 1,2 MHz) output for transducer power supply 5V – 100 mA.
OPSTBUSCAN	Item for concentration of CAN signal and supply voltage.

Technical Characteristics

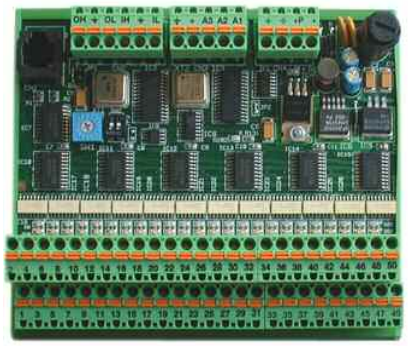
- IP20 protection degree.
- The working temperature is 0 +55 centigrade degrees.
- The storing temperature is –20 +70 centigrade degrees
- The maximum degree of damp is 90% with no condensation.

Pictures and dimension of models



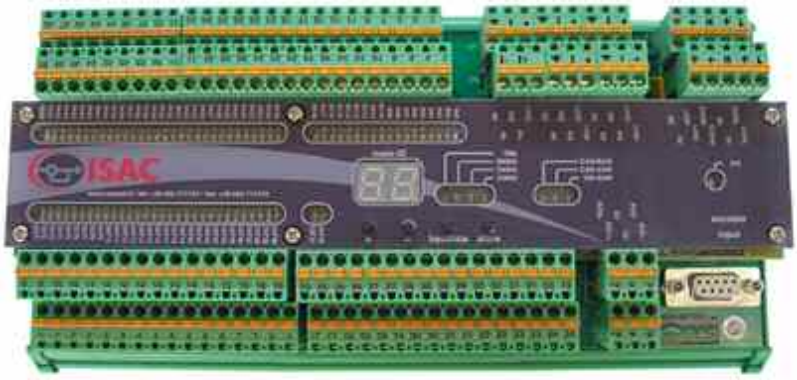
OPBASOCAN0

HEIGHT	120,0 mm
WIDTH	210,0 mm
DEPTH	70,0 mm



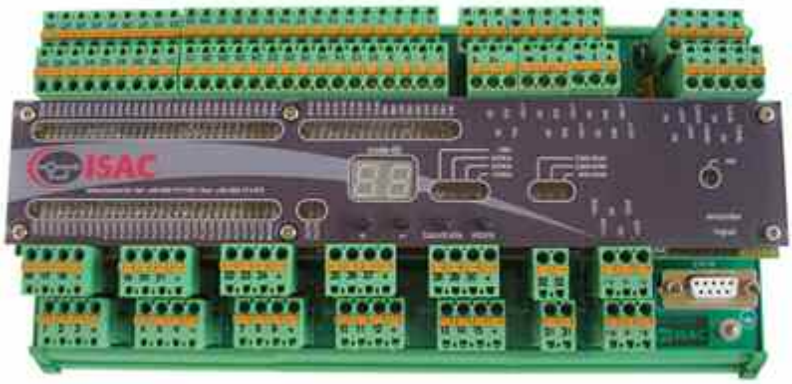
OPBASICAN0

HEIGHT	120,0 mm
WIDTH	140,0 mm
DEPTH	70,0 mm



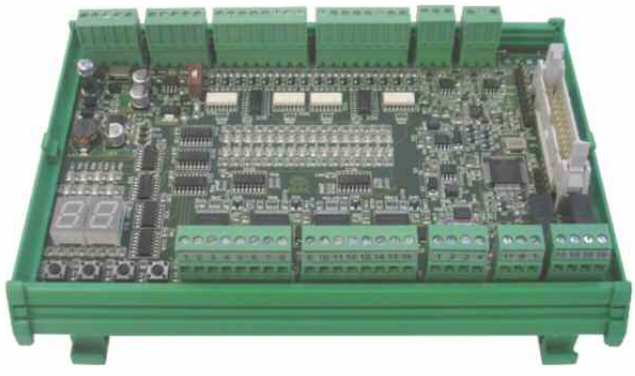
OPBASIOCAN1

HEIGHT	126,0 mm
WIDTH	240,0 mm
DEPTH	75,0 mm



OPBASIOCAN2

HEIGHT	126,0 mm
WIDTH	240,0 mm
DEPTH	75,0 mm



OPBASIOCAN5

HEIGHT	125,0 mm
WIDTH	175,0 mm
DEPTH	52,0 mm

OPBASIOCAN6

HEIGHT	125,0 mm
WIDTH	106,0 mm
DEPTH	52,0 mm

OPNOCANC0

HEIGHT	120,0 mm
WIDTH	75,0 mm
DEPTH	55,0 mm

OPSTBUSCAN

HEIGHT	80,0 mm
WIDTH	50,0 mm
DEPTH	55,0 mm

OPIOCAN0

HEIGHT	120,0 mm
WIDTH	85,0 mm
DEPTH	70,0 mm

OPADCAN0

HEIGHT	120,0 mm
WIDTH	75,0 mm
DEPTH	55,0 mm

OPCVCAN0

HEIGHT	120,0 mm
WIDTH	75,0 mm
DEPTH	55,0 mm

To every interface corresponds an actual potentiality of piloting (PLC Inputs and Output) and a PLC memory occupation. The following table lists parameters for every unit.

CAN interfaces	Inputs + Outputs	D/A	A/D	Encoder counting	Addressing	Description
BASOCAN	0+32	1			HW: Rotary Switch (1÷15).	Node + Outputs
BASICAN	48+0		3		HW: Rotary Switch (33÷47).	Node +Inputs
BASIOCAN1 BASIOCAN2	48+32	2	6	1	HW: Microbutton (1÷63).	Node + Inputs + Outputs
BASIOCAN5	16+16	1	2	0	HW: Microbutton (1÷63 oppure 1÷127).	Node + Inputs + Outputs
BASIOCAN6	16+16	0	0	0	/	(Expansion) Inputs + Outputs
NOCANC	0	1	0	0	HW: Rotary Switch (1÷63). SW : Profile DSP-305(1÷63).	Node + D/A
IOCANC	16+8	0	0	0	/	(Expansion) Inputs/outputs
IOCANC	24+0	0	0	0	/	(Expansion) Inputs
ADCANC	0	0	8	0	/	(Expansion) A/D
CVCANC	0	0	0	3	/	(Expansion) Encoder counter

Organization Nodes for I/O peripherals:

- The unit NOCANC allows till a maximum of 6 expansion units, with the following limitations:

Type of Expansion unit	*Max. number for each node*
OPIOCAN0 (16 I +8 O)	3
OPIOCAN0 (24 I)	2
OPADCAN0 (8 A/D)	1
OPCVCAN00 (3 Counters)	3 (it is limited to 1 if the same node includes also an ADCAN unit)

- The unit BASIOCAN5 allows two Expansion units at maximum according to following combinations .

Expansion units and combinations allowed		
BASIOCAN6		
BASIOCAN6	+	BASIOCAN6
CVCAN		
CVCAN	+	CVCAN
ADCAN		
ADCAN	+	CVCAN

Note: (IOCAN expansion is not supported by OPBASIOCAN5 node)

For CANopen draft implementations see “CANopen specifics”.

IP67 Protect models (Distributors)

The protected I/O modules (IP67 degree of protection) with CANopen interface are available in Node unit and in Expansion unit and they have a type of signals established and/or configurable in function of the model. The name of each connector/led are pressed on the external side of the box. There are foreseen the housing for labels in order to identify the signals.
The number of Node units that can be added to the CANopen line of ISAC controllers depends on the elaboration capability of the central unit (See General Catalogue – description of CNC and PAC).
The maximum number of expansions that can be connected to each node is 3.
Here below there are the main characteristics and the description so units.

Type	**Model**	**Description**			
		Inputs (*i*)	***Output*** (*o*)	***Configurable I/O*** *(c)*	***Details***
Node	OPRIP8+8P5	8	/	8	CANopen interface
Expansion	OPEXP16	16	/	/	
Node	OPRIP8+24	8	24	/	CANopen interface

Note
(*i*) = Digital inputs PNP opto-isolated 24Vdc (Range 17 … 27 Vdc)
(*o*) = Digital outputs semi-conductor type and range: 24 Vdc-0,15 A for OPRIP8+24 or range 24 Vdc at 0,5 A on OPRIP8+8P5
(c) = Each connector can be configured or Digital Input (*i*) or Digital Output (*o*).

The overall dimensions are the same for every units and they are the following:

HEIGHT	235,0 mm
WIDTH	60,0 mm
DEPTH	33,0 mm

For CANopen draft implementations see “CANopen Specifications”.

They allow the Bit Rate selection and addressing either via Hardware and via software with profile DSP-305 V1.1.1. The available addresses are 99.
WARNING: The CANopen Master card of the ISAC CNCs supports 63 addresses.

The wiring must be made by means of CAN cable “4 wires + shied” (DESINA) and pre-headed cables. They allow separated 24 Vdc power supply among logic section (CAN signals) and power section (I/O). The connectors available are standard ones of type M16 for power signal and M12 for CAN signal, digital inputs/outputs and for expansions connecting.
The maximum length among Node and expansion is 2 mt.

The OPRIP8+24 represents a valid and a low cost solution for the controlling of the most common group of electro-valves without need of expensive integrated controller: in fact through the 25 pin SUB-D connector it can be directly connected to every group equipped with corresponding connector.

Technical characteristics
- IP67 protection degree.
- The working temperature is –10 … +75 centigrade degrees.

OPRIP8+8P5

OPEXP16

OPRIP8+24

ACCESSORIES

Accessories on CANopen interface

Buttons PLC/Securities on CANopen interface.

The push-button can house 9 machine commands with diameter of 22mm, emergency button and 2 potentiometers. It can be configured in function of the application itself. The front panel has IP65 protection degree.
The Machine commands are on are on CANopen interface with profile DS-401. This unit is a CANopen node with address range 1÷63. The addressing can be made via Hardware, that is Rotary Switch, or via software by means of profile DSP-305.

For CANopen draft implementations see “CANopen Specifications”.

OPPLMUCAN0

HEIGHT	150,0 mm
WIDTH	482,0 mm
DEPTH	90,0 mm

The option code of push-button is OPPLMUCAN0. The buttons kit is not included because the kit must be chosen by customer. The labels and symbols can be changed in accord to the needs.

Handled dashboard (Pilot)

Technical Characteristics
· Working temperature 0° ÷ 50°C
· Relative humidity 10% ÷ 95%
· Degree of Protection IP54

The OPPILOTxx option is an handheld dashboard that allows a very comfortable operator interface for a typology of base functions such as :

- Machine equipment, for example loading/unloading of tool warehouse, tool preset, origins saving, piece stirrup.
- Machining in manual mode
- Measure, such as acquiring of heights in specifics points of the piece, etc…

The communication between handheld and machine is based on CANopen protocol.

The terminal handheld device is equipped with:

- Graphical alphanumeric display with resolution of 128x64 pixel,
- 2 potentiometers for velocity override feed and speed,
- emergency push-button and operator push-button (dead man)
- reduced keyboard that is fundamental in order to work in manual and automatic mode, it includes:
  - 4 function keys (F1 … F4)
  - operative keys: Start, Stop, reset and the A and B keys that are reserved to machine functionalities.

In accord to the option it could have electronic handwheel.
Option Code:

Code	Encoder Handwheel
OPPILOT10	NO
OPPILOT11	SI

Details

The mould assures a good handling and the hook, provided by magnetic support, allows a fast hold on metallic surface, also in vertical position.

The overall dimension of Pilot unit, equipped with encoder handwheel, emergency and dead man push-button and potentiometers are the following:

HEIGHT	240,0 mm
WITH	140,0 mm
DEPTH	80,0 mm

The software of user interface can be customized by means of PLC software, or by means other application software that can run in controller environment, so achieving the maximum flexibility of the application. The available functions are the activation of main controlller commands, the visualization of heights, warning and alarm messages, etc…

The text of messages can be easily translated into different languages, included not-western alphabet (Greek, Cyrillic, Japanese, Chinese …).

CANopen Specifications

The wiring must be realized by cable “4 wires + shield” (DESINA).

On side there is a table with the maximum length in function of Bit Rate selection.

Bit Rate	Max. length
1 Mbit/sec	30 mt
500 Kbit/sec	100 mt
250 Kbit/sec	200 mt
125 Kbit/sec	400 mt

Here below there are the implementations of CANopen specifications.

General Specifications

Specification	***Value***
NMT	Slave
Error controlling	Node Guarding
SW addressing	Profile DSP-305 V1.1.1 (63ID)
BitRate SW	Profile DSP-305 V1.1.1 (1Mbit/s…125Kbit/s)
PDO Modes	Event-Triggered, Remotely Requested
PDO linking	No
PDO mapping	Variable
Number of SDO	1 Server, 0 Client
Version	DS-301 V3.0
Profile	DS-401 V2.0

Specifications for I/O units

Name	***Code***		***Specifications***
			PDO
I/O Open Frame unit: BASOCAN	OPBASOCAN0		2 Rx, 2 Tx
I/O Open Frame unit: BASICAN	OPBASICAN0		2 Rx, 2 Tx
I/O Open Frame unit: BASIOCAN	OPBASIOCAN1 OPBASIOCAN2 OPBASIOCAN5		2 Rx, 5 Tx
I/O Open Frame unit: CAN Node	OPNOCANC0		2 Rx, 5 Tx
I/O IP67 protected units	OPRIP8+8P5 OPEXP16 OPRIP8+24		2 Rx, 2 Tx

Specification CANopen accessories

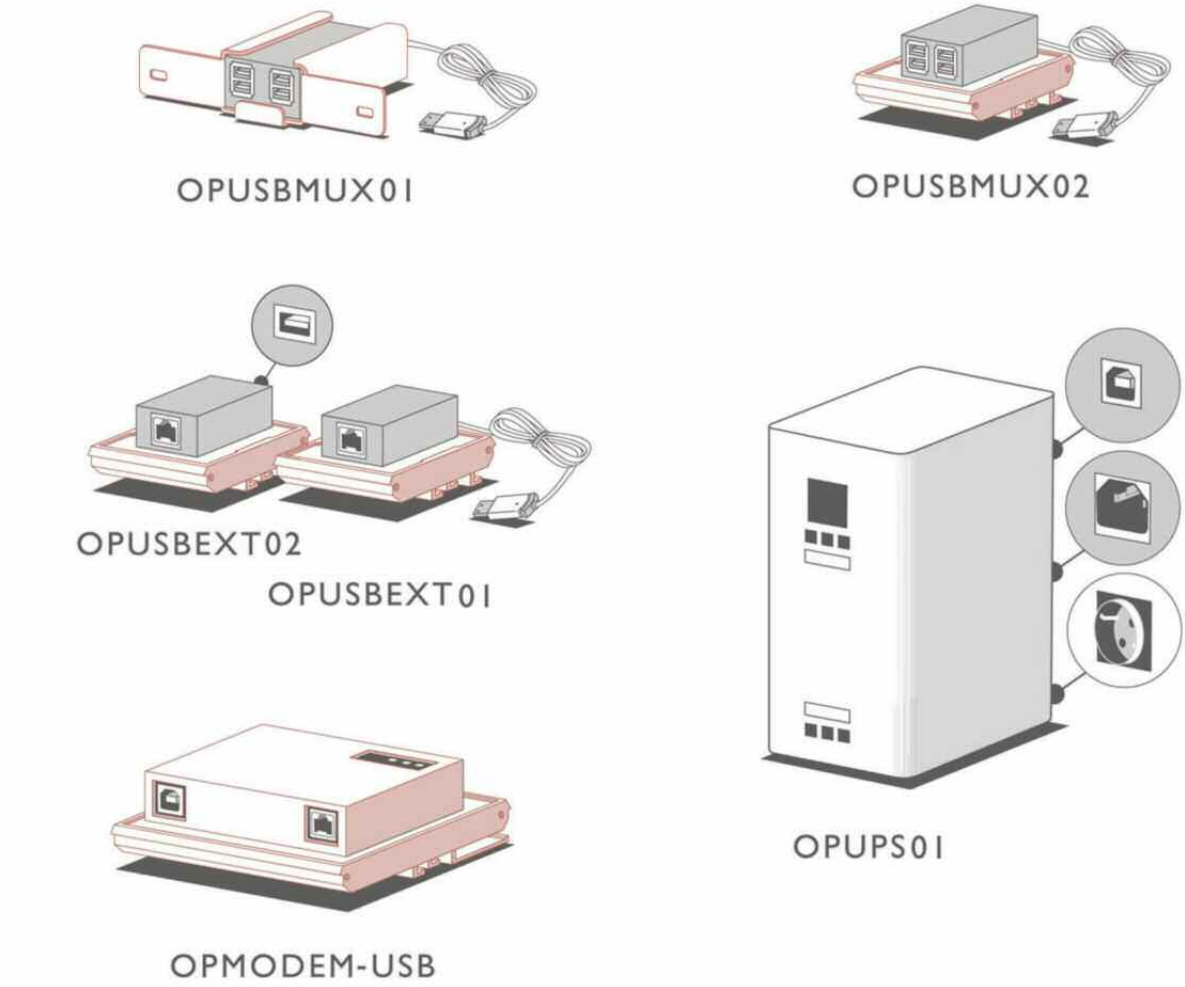
Name	***Code***		***Specifications***
			PDO
Buttons	OPPLMUCAN0		2 Rx, 2 Tx
Pilot	OPPILOTxx		2 Rx, 2 Tx

HMI and USB accessories

Table with description options

Option code	Description	Notes
OPUSBMUX01	HUB for 4 USB ports provided with bearing for the fixing on wall.	The option OPKITFDUR adds lid protection and fixing accessories for the proper housing, see for example display 12" OPMMILVDS1/4.
OPUSBMUX02	HUB for 4 USB ports provided with bearing for the fixing on DIN guide.	
OPUSBEXT01	Local Unit (transmitter) with USB connector type A. The item is equipped with bearing for the fixing on DIN guide. The outgoing USB signal can be transmitted up to 40 mt. (with proper cable).	These options can constitute a kit for extending USB connection up to 40 mt.. The two items must be connected with standard cable for local line Cat. 5 (FTP).
OPUSBEXT02	Remote Unit (receiver) with USB connector type A female. The item is equipped with bearing for the fixing on DIN guide.	
OPMODEM-USB	Modem, USB interface. It is equipped with bearing for the fixing on DIN guide.	
OPUPS01	Power unit 550VA , USB interface	
OPUSBTO485	Converting signal from USB to RS-485.	
OPPRESUSB1	USB connector for front panel with protection cap against dust.	
OPREMPLA02	Local Unit – Transmitter (central unit side) of video VGA signal and USB 2.0 signal till a distance of 100 mt. It is provided of VGA cable length 1,8 mt and of USB cable length 1 mt in order to connect the unit to the central unit. It needs of +24Vdc power supply. The item is equipped with bearing for the fixing on DIN guide.	These options constitute the kit for displacing operator panel (with USB HUB) till 100 mt of distance. You must connect them with two cables FTP (Cat. 5).
OPREMPLA06	Local Unit – Receiver (operator panel side) of video VGA signal and USB 2.0 signal from a distance of 100 mt. It is provided of VGA cable length 1,8 mt and of USB cable length 1 mt in order to connect the unit to the operator panel. The item is equipped with bearing for the fixing on DIN guide.	
OPREMPLA00	Local Unit – Transmitter (central unit side) of video VGA signal till a distance of 100 mt. It is provided of VGA cable length 1,8 mt in order to connect this item to the central unit. It needs of +24Vdc power supply.The item is equipped with bearing for the fixing on DIN guide.	These options constitute the kit for displacing operator panels till 100 mt of distance. You must connect them with cable FTP (Cat. 5).
OPREMPLA01	Local Unit – Receiver (operator panel side) of video VGA signal from a distance of 100 mt. It is provided of VGA cable length 1,8 mt in order to connect the item to the operator panel. The item is equipped with bearing for the fixing on DIN guide.	

Example drawings and images of some of the available options:



OPPRESUSB1

HEIGHT	34,0 mm
WIDTH	26,0 mm
DEPTH	42,0 mm Depth of 34 towards the internal side

Remoting cables

The **cables** for ***remote placing of operator panel*** are:

- Cable to displace signal video LVDS + signal USB for Touch Screen function =
  Flat cable 25 pin pitch 1,27 mm, characteristic impedance 100 Ohm, in circular sheath with shielded and protection degree IP65, connectors male 25 pin.
  - OPCALVDSTS = Length 5,0 mt.
  - OPCALVDST2 = Length 2,5 mt.

- Cable to displace signal video LVDS =
  Flat cable 25 pin pitch 1,27 mm, characteristic impedance 100 Ohm, in circular sheath with shielded and protection degree IP65, connectors male 25 pin.
  - OPCATLVDS = Length 5,0 mt.
  - OPCATLVDS1 = Length 2,5 mt
    This cable must be used for operator panels on LVDS interface without Touch Screen function or for operator panel on LVDS interface and USB HUB (in fact, in this case the USB signal must be transmitted on apposite cable to the USB HUB, from which the signal for touch screen function is collected).

- Cable to displace signal VGA =
  Standard VGA cable with degree of protection IP65, connectors 15 pin high-density male.
  - OPCATVGA0 = Length 25,0 mt.
  - OPCATVGA1 = Length 1,8 mt.
  - OPCATVGA2 = Length 10,0 mt
  - OPCATVGA3 = Length 5,0 mt
  - OPCATVGA4 = Length 15,0 mt

Cables

The ***cables FTP*** (transmitter/receiver):

- Standard Cable cat. 5 type STP (FUTP) equipped with connectors RJ-45 male.
  - OPCAFTP100 = Length 10,0 mt.
  - OPCAFTP150 = Length 15,0 mt.
  - OPCAFTP050 = Length 5,0 mt

The ***cables*** for ***PILOT*** unit are the following:

- OPCAPILOT0 = Base cable of 1 mt. length with headed connector of type circular 10 pin female (1210S of series MIL-C-26482).
- OPCAPILOT1 = Extension of Pilot cable of 1 mt. length.

Access Point for Wireless network

It is available the module Accesso Point OPAP54GIP0 that can be employed in order to set up a local network (LAN) without cables (WAN – Wireless Area Network). There is an unique basic product that can be configured in order to satisfy the various applicative necessities.
The applicative functionalities are :

- Server (in order to connect with the wired LAN),
- Client,
- Repeater (in order to extend the wireless network).

The applicative necessities are:

- Installing inside of electrical cabinet,
- Installing as stand alone in an industrial environment,
- Facility in installing, monitoring and maintenance.

The access point can be configured as:

- Server
- Client
- Repeating.

Overall dimensions (without antenna)

HEIGHT	180,0 mm
WIDTH	180,0 mm
DEPTH	60,0 mm

Technical Data

Specifications

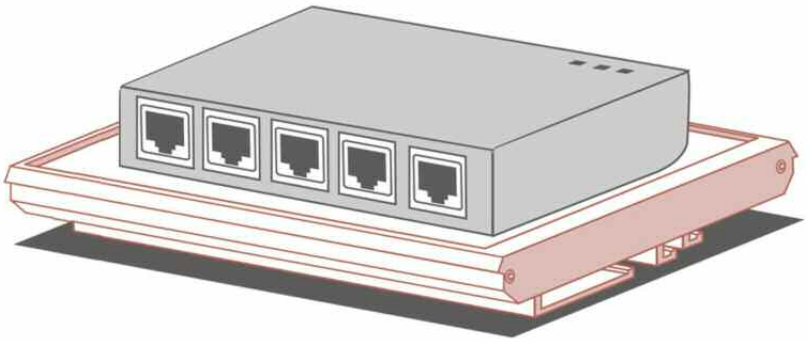
Standard for LAN wireless	IEEE 802.11g, IEEE 802.11b
Channels	13
Ports	10/100 Mbps, Auto-CrossOver (MDI/MDI-X)
Cabling Type	UTP or better
Data Rate	Up to 54 Mbps (Wireless) - 10/100 Mbps (LAN)
LED	Power, Diag, WLAN (Act, Link), LAN (Link/Act, Ful/Col, 100)
Transmit Power	15 dBm (Note: the value is referred to standard case with the antennas provided)
Reception level (typical values)	11Mbps: -80 dBm - 54Mbps: -65 dBm
Modulating	CCK, DQPSK, DBPSK, OFDM
Network Protocol	TCP/IP, IPX, NetBEUI
Security	WPA, WEP encryption, MAC addressing filter, SSID Broadcast (enabled/disabled)
WEP encryption key	64/128 bit
User interface	It id developed in accord to standard Web UI (Web Unique Interface) and so it is used through every Web Browser

Technical Characteristics

Certifications	FCC Class B, CE
Operating Temperature	0ºC ÷ 40ºC
Storage Temperature	-20ºC ÷ 70ºC
Operating Humidity	10% ÷ 85%, Non-Condensing
Storage Humidity	5% ÷ 90%, Non-Condensing

Switch Ethernet network

The unit (OPHUB4P) Switch Fast Ethernet with 5 ports at 10/100 Mbit/sec is equipped with support for the housing on standard DIN guide.



Technical Characteristics

- Standard Ethernet IEEE 802.3 (10Base-T) / Fast Ethernet 802.3u (100Base-TX).
- Velocity 10/100 Mbit/sec in Full or Half Duplex mode and Self-negotiation on all ports.
- All ports are of type automatic MDI/MDIX, so direct cables or crossover cables can be indifferently connected.
- Status LED for Link/Activity.

UTILITY & SERVICES

REMOTE-ASSISTANCE

The **OPTELASS** option includes Hardware (OPMODEM-USB) e Software QuickSupport (the software used for Remote controlling is TeamViewer).

- The ISAC controllers equipped with Remote-Assistance OPTELASS option have a right to a test about connection (after this test, ISAC gives a confirmation of executed test).
- Warning: in order to achieve the Remote-assistance services supplied by ISAC srl you have to contact ISAC for foreseen practices.

SERVIZI

TECHNICAL ASSISTANCE
ISAC provides assistance of its products, availing itself of highly experienced technicians, through phone assistance, remote diagnostic or with direct actions on the plant.
Its experience allows the understanding of the general problems of the machine or plant even if not closely related to its own products.

SUPPORT
ISAC helps developers in all development and realization stages of the plant, from project drafting to the installation. It provides support at its own head office or at the customer's office.

APPLICATION
ISAC develops the application or some of its part according to the specifics given by the customer, and put its own experience in the management of machine functioning logic, in the operator interface and in manufactures programming. It proposes itself as a partner during the development and if necessary during project maintenance and up dating.

TRAINING
ISAC plans training courses for the programming and use of our products. It offers standard courses and dedicated ones due to satisfy the customer's necessities, making them in its own head office or straight on the machinery.

For detailed information about offered services, please see modules and appropriate documentation.

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SUMMARY OF CODES

The codes are described in this document.

List of Code	ISAC code
PLC (I/O) Interface	
Basocan (Terminal Board CANopen 32 output a rele + 1 D/A)	**OPBASOCAN0**
Basican (Terminal Board CANopen 48 input + 3A/D)	**OPBASICAN0**
Basiocan1 (Terminal Board CANopen 48DI, 32DO(Relè), 5AD(V), 1AD(I), 2DA, 1CV)	**OPBASIOCAN1**
Basiocan2 (Terminal Board CANopen 48DI, 30DO (Mosfet 2A), 2DO(Relè), 5AD(V), 1AD(I), 2DA,1CV)	**OPBASIOCAN2**
Basiocan5 (Terminal Board CANopen 16DI, 16DO (Mosfet 2A), 2DO(Relè), 2AD(V), 1DA, expansible - screw contact)	**OPBASIOCAN5**
Basiocan6 (Terminal Board 16DI, 16DO (Mosfet 2A) expansion unit for OPBASIOCAN5 - screw contact)	**OPBASIOCAN6**
Nocanc (Terminal Board CANopen 1DA, expansible)	**OPNOCANC0**
Iocan (Module input/output digital (16+8) expansion for CANopen node)	**OPIOCAN0**
Cvcan (Module Encoder counting (3 ch) expansion for CANopen node)	**OPCVCAN00**
Adcan (Module analogical input (8 ch) expansion for CANopen node)	**OPADCAN0**
Movable connector for ADCAN	**OPKITADCAN0**
Signals concentrator	**OPSTBUSCAN**
Distributors IP67: 8 I e 8 I/O (with output 0,5 A)	**OPRIP8+8P5**
Expansion 16I	**OPEXP16**
Distributors IP67: 8 I e 24 O	**OPRIP8+24**
Operator Interface	
Operator panel TFT Touch LVDS 4.3" 480x272 dim. 146x146 – displac. up to 5 mt + n.1 port USB on front panel.	**OPMMILVDS18**
Operator panel TFT Touch LVDS 5.7" 640x480 dim. 200x160 – displac. up to 5 mt	**OPMMILVDS14**
Operator panel TFT Touch LVDS 10.4" 640x480 dim. 260x320 – displac. up to 2,5 mt	**OPMMILVDS22**
Operator panel TFT Touch LVDS 12,1" 800x600 dim. 370x300 con HUB USB – displac. up to 2,5 mt	**OPMMILVDS17**
Operator panel TFT Touch LVDS 12,1" 800x600 dim. 370x300– displac. up to 2,5 mt	**OPMMILVDS24**
Operator panel TFT Touch VGA 12,1" 800x600 dim.370x300 con HUB USB – displac. up to 40 (/100) mt.	**OPMMIVGA4**
Operator panel TFT LVDS 12.1" 800x600 dim.482x240 – displac. up to 5 mt	**OPMMILVDS1**
Operator panel TFT Touch LVDS 12.1" 800x600 dim.482x240 – displac. up to 5 mt	**OPMMILVDS4**
Board TFT VGA 15" 1024x768 dim.482x400 + CNC Keyboard – displac. up to 40 (/100)mt.	**OPMMIVGA0**
Operator panel TFT Touch VGA 15" 1024x768 dim.482x288 + HUB USB – displac. up to 40 (/100) mt.	**OPMMIVGA1**
Operator panel TFT VGA 15" 1024x768 dim.482x288 + HUB USB – displac. up to 40 (/100) mt.	**OPMMIVGA2**
Operator panel TFT VGA 15" 1024x768 dim.400x316 + HUB USB – displac. up to 40 (/100) mt.	**OPMMIVGA6**
Operator panel TFT Touch LVDS 15" 1024x768 dim. 482x288 with HUB USB - displac. up to 2,5 mt.	**OPMMILVDS19**
Operator panel TFT Touch LVDS 15" 1024x768 dim.400x316 - displac. up to 2,5 mt.	**OPMMILVDS23**

Standard Keyboard	**OPKEYBDESK2**
CNC keyboard – degree of protection IP65	**OPKEYBIP65**
CNC keyboard – degree of protection - with Touchpad mouse	**OPKEYMIP65**
Mouse Standard USB	**OPMOUSE1**
Virtual Keyboard	**OPVIRKEYB0**
CANopen interface Accessories	
Push-button with Machine commands	**OPPLMUCAN0**
Handled dashboard CANopen (PILOT)	**OPPILOT10**
Handled dashboard CANopen (PILOT) with handwheel	**OPPILOT11**
Accessories HMI and USB	
HUB x USB (with bearing for fixing on wall)	**OPUSBMUX01**
Lid protection and fixing accessories	**OPKITFDUR**
HUB USB with bearing for DIN guide	**OPUSBMUX02**
HUB USB with bearing for DIN guide for powered cabinet	**OPUSBMUX03**
USB extender – Local unit– up to 40 mt	**OPUSBEXT01**
USB extender – Remote unit– up to 40 mt	**OPUSBEXT02**
Modem USB	**OPMODEM-USB**
Power Unit – (USB interface)	**OPUPS01**
Converting from USB to RS-485	**OPUSBTO485**
USB connector (panel)	**OPPRESUSB1**
Displacing for operator panel - VGA and USB signals– Local Unit – up to 100 mt	**OPREMPLA02**
Displacing for operator panel - VGA and USB signals - Remote Unit– up to 100 mt	**OPREMPLA06**
Displacing for operator panel - VGA signal– Local Unit – up to 100 mt	**OPREMPLA00**
Displacing for operator panel - VGA signal - Remote Unit – up to 100 mt	**OPREMPLA01**
Cables	
Cable for LVDS + USB signal for Touch Screen (length 5,0 mt)	**OPCALVDSTS**
Cable for LVDS + USB signal for Touch Screen (length 2,5 mt)	**OPCALVDST2**
Cable for LVDS (length 5,0 mt)	**OPCATLVDS**
Cable for LVDS (length 2,5 mt)	**OPCATLVDS1**
Cable for VGA length 25,0 mt	**OPCATVGA0**
Cable for VGA length 1,8 mt	**OPCATVGA1**
Cable for VGA length 10,0 mt	**OPCATVGA2**
Cable for VGA length 5,0 mt	**OPCATVGA3**
Cable for VGA length 15,0 mt	**OPCATVGA4**
Cable FTP length 10,0 mt	**OPCAFTP100**
Cable FTP length 15,0 mt	**OPCAFTP150**
Cable FTP length 5,0 mt	**OPCAFTP050**
Cable for PILOT base (1mt) + connector	**OPCAPILOT0**
Cable for PILOT extension 1 mt.	**OPCAPILOT1**
Accessories Network	
Access Point (WLAN) (Server / Client / Repeating)	**OPAP54GIP0**
Switch Ethernet - 5 ports	**OPHUB4P**
Utility & Services	
Option Tele-assistance	**OPTELASS**
Services: see appropriate documentation	