



Think Big, We Do.

USER GUIDES



Visitouch19



Intuitive Programming

The VisiTouch 19 MX is a 3D graphical numerical control for CNC press brakes. It aims at making the operator's work easier, even for demanding programming and setting-up tasks.

For instance, CAD parts can directly and easily be imported into the VisiTouch MX control or into the VisiTouch MX offline software.

The elegant and powerful design and interface let the operator exploit the full range of features with his fingertips. Importing, programming, visualizing and simulating the bending of a part, all in 3D, on the large 19" become quick, easy and efficient.

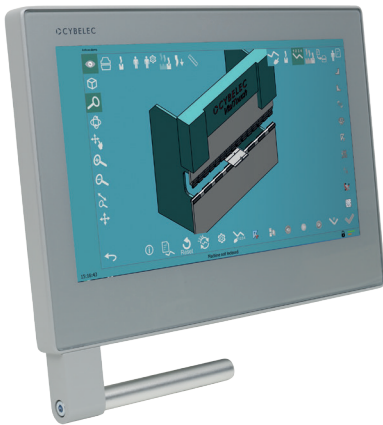
Behind the scene, the VisiTouch 19 MX is a powerful numerical control that can be adapted to standard press-brakes, up to the most sophisticated models controlling any number of axes.

With its capacity to manage sophisticated features such as complex bending aids, or slave axes, combined with a wide range of parameters allowing a complete use of the press brake performances and setup wizards, the VisiTouch 19 MX will give a press brake the decisive competitive edge.



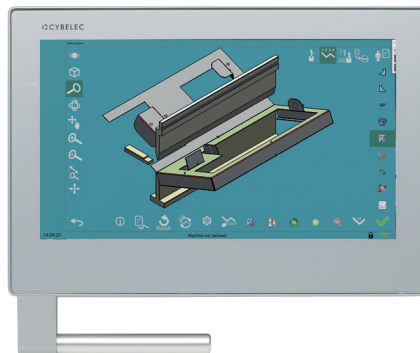
Main features for the user

- 19" modern streamlined glass surface touch screen that can be used with gloves.
- User friendly HMI, similar to the CybTouch's one, thanks to an intuitive programming and dedicated set-up wizards (auto-tuning).
- Full 3D visualisation and simulation.
- Parts management with DXF flat pattern and 3D format files import.
- Automatic solutions of complex parts: automatic bend sequencing, gauging, tooling and auto segmentation.
- Running under Windows 7 for multitasking and networking.
- Internal backup and restore functions.
- Outstanding diagnostic tools.



Main features for the OEM

- All kinematics available for X, Xrelatives, Xslave, R, Rslave, and Z axes. For Back and Front multiples gauges.
- All bending aid kinematics available. Back and Front multiples sets.
- Axis control through CANopen with wide configuration capabilities.
- Customizable User buttons for the machine operator.
- PLC programming for customized functions.
- Open system allowing customization (User Cycles and Plug-in software modules).



Ordering information

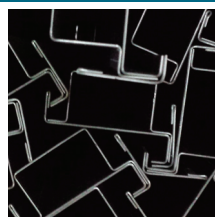
- S-VST-19
VisiTouch console 19" with glass touchscreen (capacitive)
- S-CNC-34PS3
CNC unit with Intel Atom x7 (Quad core, 8 GB RAM), 4 axes, 3D visualization and simulation software

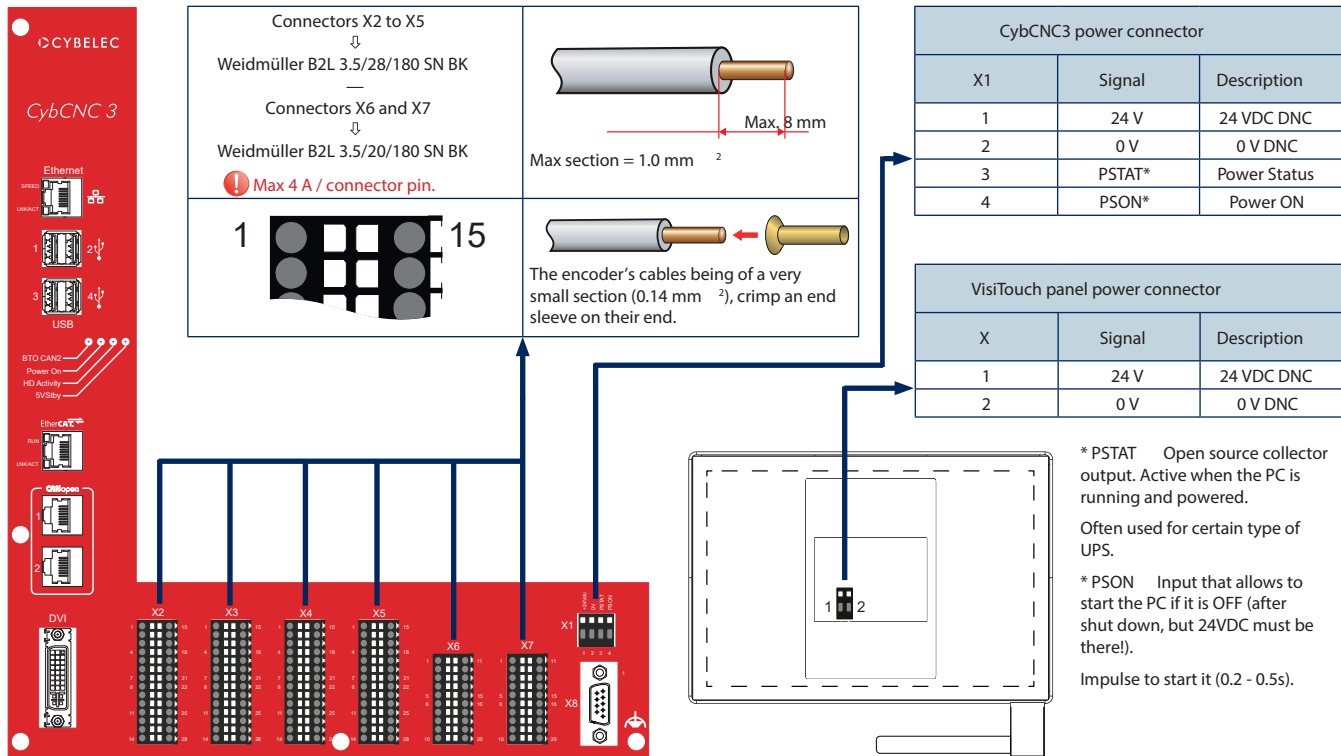
Options

- VisiTouch MX offline software
- Import DXF flat, IGES, STEP, SW
- Bending aids and sheet support
- Angle measurement and angle protractor
- Tandem management
- Tool locator



Easy operating,
better bending and
powerful features
characterize
VisiTouch 19 MX





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Generalities

- ◇ All 0V_I/O pins are connected together.
- ◇ The 24V_I/O pins from connectors X2 and X3 are connected together.
- ◇ The 24V_I/O pins from connectors X4 and X5 are connected together
- ◇ Digital outputs 1 to 12 are capable of driving a load up to 0.7A maximum (X2 and X3).
- ◇ Digital outputs 13 to 24 are capable of driving a load (for example valves) up to 3 A maximum (X4 and X5).
- ◇ Digital outputs are short-circuit and overload protected.
- ◇ Inductive loads must be equipped with surge suppressors.
- ◇ See basic diagram.

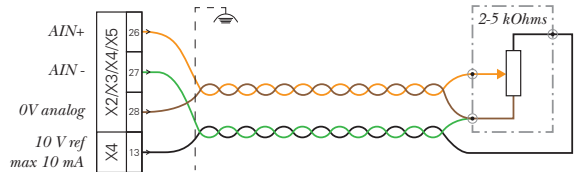
Analog Input Wiring

A 4 wires shielded cable must be used per analog input.

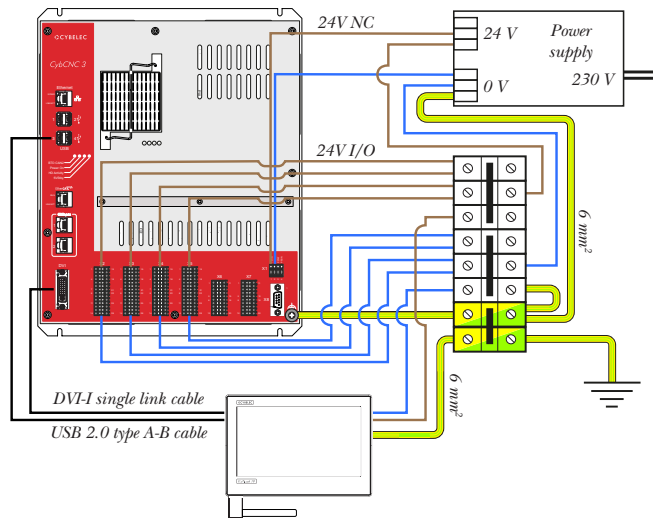
Terminals 27 and 28 of connectors X2, respectively X3, X4 and X5, must be connected together at one side of the potentiometer.

The cable shield must be connected to the chassis of the CybTouch using the grounding system.

If a twisted pair cable is used, use twisted pairs as shown.



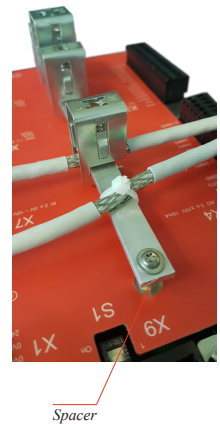
Earth and 24 VDC Wiring



i It is recommended that each supply connections (24V & 0V) is individually connected to the power supply. A series connection is strongly advised against (no daisy chain).
It is also recommended to separate the 24V I/O from the 24V NC.

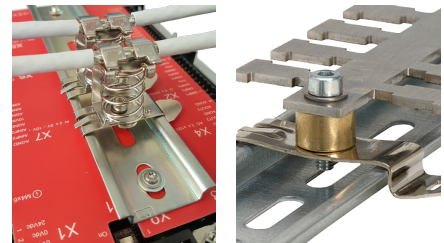
Earthing Kit

The Numerical Control is supplied with a bar that is to be used for earthing purposes as shown to the left. The shield clamps are shown as examples and are not provided.



Other options

To the right are other examples with a DIN rail (also not provided).



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X2 I/O Connector

i All pin attributions below are programmable. The list below corresponds to the default settings in machine parameters.

X2	Signal	Default I/O
1	24V I/O	24 VDC electrical box
2	OUT 1	Pump on
3	OUT 2	
4	OUT 3	Beam SP
5	OUT 4	Beam SN
6	OUT 5	Beam LS
7	OUT 6	TDC sequence
8	PWM1+	Not used
9	PWM1-	Not used
10	0V I/O	0 V electrical box
11	AOUT 1	Y1 analog out
12	0V analog	Y1 0V analog out
13	AOUT 2	Y2 analog out
14	0V analog	Y2 0V analog out

X2	Signal	Default I/O
15	24V I/O	24 VDC electrical box
16	IN 1	Permanent regulation
17	IN 2	Downward command
18	IN 3	Upward command
19	IN 4	Commutation HS-LS beam
20	0V I/O	0 V electrical box
21	IN 5	
22	IN 6	Stop
23	IN 7	X index zone
24	IN 8	R index zone
25	0V I/O	0 V electrical box
26	AIN1 +	Crowning potentiometer / cursor *
27	AIN1 -	Crowning potentiometer / 0V
28	0V analog	Crowning potentiometer / 0V Refer to electrical box wiring diagram.

* Crowning depends on the machine and can be set or not in machine parameters.

! **CAUTION! One 24VDC_I/O pin & one 0V_I/O pin must be connected to the power supply in the cabinet.**

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X3 I/O Connector

X3	Signal	Default I/O	X3	Signal	Default I/O
1	24V I/O	24 VDC electrical box	15	24V I/O	24 VDC electrical box
2	OUT 7	Safety point	16	IN 9	
3	OUT 8	End of bend	17	IN 10	
4	OUT 9	End of product	18	IN 11	
5	OUT 10		19	IN 12	
6	OUT 11	Enable X axis	20	0V I/O	0 V electrical box
7	OUT 12	Enable R axis	21	IN 13	
8	PWM2+	Not used	22	IN 14	
9	PWM2-	Not used	23	IN 15	
10	0V I/O	0 V electrical box	24	IN 16	
11	AOUT 3	X analog out	25	0V I/O	0 V electrical box
12	0V analog	X 0V analog out	26	AIN2 +	
13	AOUT 4	R analog out	27	AIN2 -	
14	0V analog	R 0V analog out	28	0V analog	0V analog out

X4 I/O Connector

X4	Signal	Default I/O	X4	Signal	Default I/O
1	24V I/O	24 VDC electrical box	15	24V I/O	24 VDC electrical box
2	OUT 13		16	IN 17	
3	OUT 14		17	IN 18	
4	OUT 15		18	IN 19	
5	OUT 16		19	IN 20	
6	OUT 17		20	0V I/O	0 V electrical box
7	OUT 18		21	IN 21	
8	n/a		22	IN 22	
9	n/a		23	IN 23	
10	0V I/O	0V electrical box	24	IN 24	
11	n/a		25	0V I/O	0 V electrical box
12	0V analog		26	AIN3 +	
13	VREF	10V analog reference voltage	27	AIN3 -	
14	0V analog		28	0V analog	



CAUTION! One 24VDC_I/O pin & one 0V_I/O pin must be connected to the power supply in the cabinet.

X5 I/O Connector

X5	Signal	Default I/O	X5	Signal	Default I/O
1	24V I/O	24 VDC electrical box	15	24V I/O	24 VDC electrical box
2	OUT 19		16	IN 25	
3	OUT 20		17	IN 26	
4	OUT 21		18	IN 27	
5	OUT 22		19	IN 28	
6	OUT 23		20	0V I/O	0 V electrical box
7	OUT 24		21	IN 29	
8	n/a		22	IN 30	
9	n/a		23	IN 31	
10	0V I/O	0V electrical box	24	IN 32	
11	AOUT 5		25	0V I/O	0 V electrical box
12	0V analog		26	AIN4 +	
13	AOUT 6		27	AIN4 -	
14	0V analog		28	0V analog	



CAUTION! One 24VDC_I/O pin & one 0V_I/O pin must be connected to the power supply in the cabinet.

X6 Encoder Connector

X6	Signal	Assignment	X6	Signal	Assignment
1	5V encoder	5V out for encoder Y1 (250mA max)	11	Z1 +	Index encoder Y1
2	0V encoder	0V out for encoder Y1	12	Z1 -	Index - encoder Y1
3	A1 +	A signal of encoder Y1	13	B1 +	B signal of encoder Y1
4	A1 -	A - signal of encoder Y1	14	B1 -	B - signal of encoder Y1
5	0V encoder		15	0V encoder	
6	5V encoder	5V out for encoder Y2 (250mA max)	16	Z2 +	Index encoder Y2
7	0V encoder	0V out for encoder Y2	17	Z2 -	Index - encoder Y2
8	A2 +	A signal of encoder Y2	18	B2 +	B signal of encoder Y2
9	A2 -	A - signal of encoder Y2	19	B2 -	B - signal of encoder Y2
10	0V encoder		20	0V encoder	



Use twisted pair cables for encoder signals.

Encoder inputs support 12VDC and 24VDC signals. In this case encoder must be powered externally with its own power supply. 0V encoder must be common. See [Encoder types \(see page 11\)](#) for more details.

Encoder inputs support encoders without inverted signals.

The encoder's cables being of a very small section (0.14 mm²), crimp an end sleeve on their end.



Do not invert index signals (normal and inverted, Z+ and Z-).

It will result in a bad indexation procedure (loss of precision), difficult to trace or no indexation at all. If this happens try to invert index signals. Z+ and Z-.

X7 Encoder Connector

X7	Signal	Assignment	X7	Signal	Assignment
1	5V encoder	5V out for encoder X (250mA max)	11	Z3+	Index encoder X
2	0V encoder	0V out for encoder X	12	Z3 -	Index - encoder X
3	A3+	A signal of encoder X	13	B3+	B signal of encoder X
4	A3 -	A - signal of encoder X	14	B3 -	B - signal of encoder X
5	0V encoder		15	0V encoder	
6	5V encoder	5V out for encoder R (250mA max)	16	Z4 +	Index encoder R
7	0V encoder	0V out for encoder R	17	Z4 -	Index - encoder R
8	A4+	A signal of encoder R	18	B4 +	B signal of encoder R
9	A4 -	A - signal of encoder R	19	B4 -	B - signal of encoder R
10	0V encoder		20	0V encoder	



Use twisted pair cables for encoder signals.

Encoder inputs support 12VDC and 24VDC signals. In this case encoder must be powered externally with its own power supply. 0V encoder must be common. See [Encoder types \(see page 11\)](#) for more details.

Encoder inputs support encoders without inverted signals.

The encoder's cables being of a very small section (0.14 mm²), crimp an end sleeve on their end.



Do not invert index signals (normal and inverted, Z+ and Z-).

It will result in a bad indexation procedure (loss of precision), difficult to trace or no indexation at all. If this happens try to invert index signals. Z+ and Z-

Numerical control for Press

VisiTouch 19 VisiTouch 19 MX

VisiTouch 19 is an outstanding numerical control for press-brakes composed of two main hardware elements:

- A programming console with 19" modern streamlined glass surface touch screen, generally attached to a swiveling arm.
- A Numerical Control in an all-in-one housing, placed inside the electrical cabinet, with analog and digital I/ Os, sufficient to control 4 axes, typically Y1, Y2, X and R. For more complex machines, additional axes and I/O can be added via two CANopen® or one EtherCAT® field buses.



VisiTouch 19 is available in two versions:

- VisiTouch 19 with graphical profile drawing (Touch Profile), precise 2D program and 3D visualization
- VisiTouch 19 MX with 3D visualization, 3D import and full automatic solutions.

In addition to all the features available to control simple as well most sophisticated press brakes, VisiTouch offers also an open system allowing customization.

Main CNC and HMI features

Main features

Based on CybTouch software with a very user friendly HMI thanks intuitive programming and an ease to set up with dedicated wizards (auto-tuning).

All kinematics available for X, Xrelatives, Xslave, R, Rslave, and Z axes. For Back and Front multiples gauges. For bending aids.

Axis control through CANOpen with wide configuration capabilities.

Open system through customizable «User Cycles» and plug-in software modules.

Customizable User buttons for the machine operator.

High-end features

Full 3D visualization and simulation.

Parts management with DXF flat pattern and 3D format files import.

Automatic solutions of complex parts: automatic bend sequencing, gauging, tooling and auto segmentation.

Running under Windows 10 for multitasking and networking.

All bending aid kinematics available. Back and Front multiples sets.

Angle measurement.

Software open features

Interactions with the beam cycle.

Custom auxiliary functions. integration based on «UserCycles» for real time part and on plug-in for HMI part.

Custom User buttons.

Technical Characteristics - VisiTouch 19 programming Console

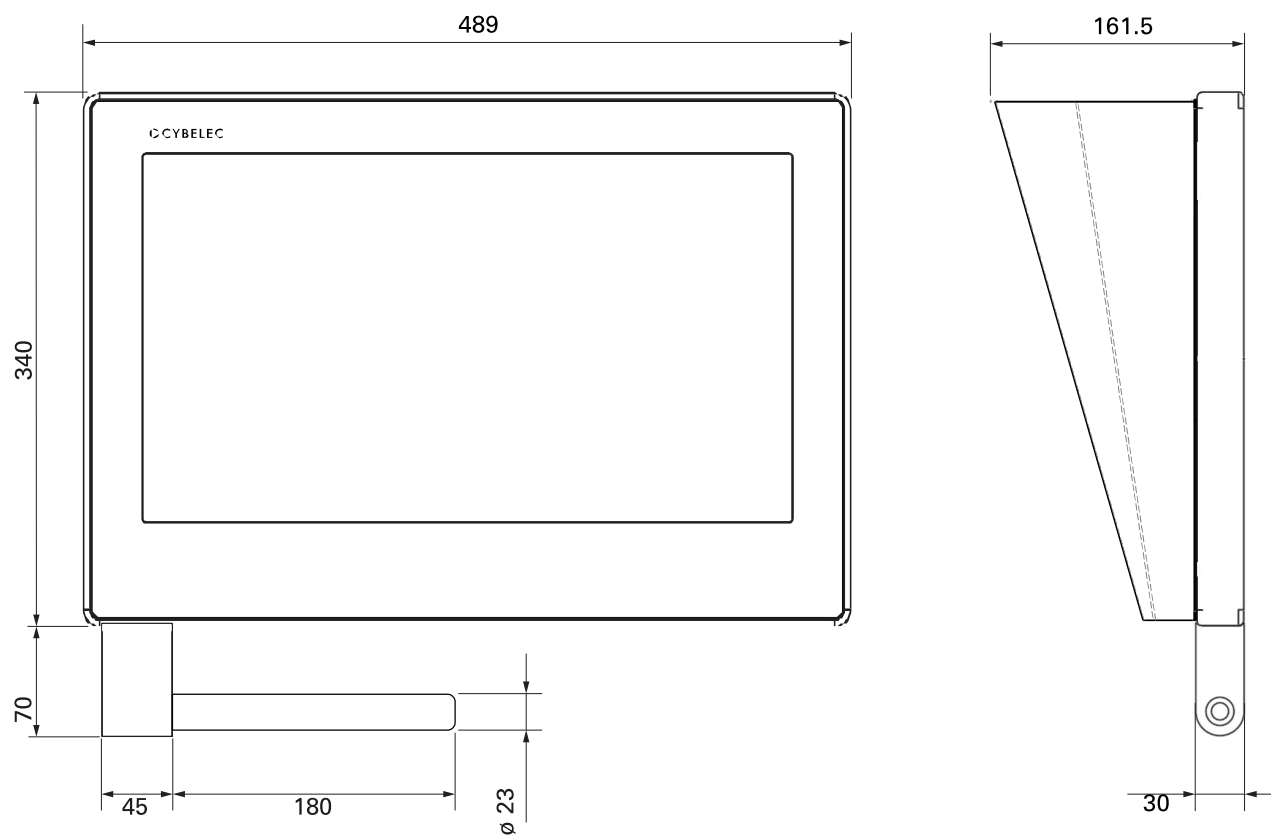
TFT screen	18.5" wide TFT 16:9
Resolution	1366 x 768, 24 bits (WXGA)
Touch screen	Multi-touch 10 fingers
Operating System	Windows 10
CANopen compatible drives	Baumüller, Delta Electronics, Infranor, INVT, Schneider, etc.
Ethercat compatible drives	Delta Electronics, Infranor, Kollmorgen Europe GmbH, OMRON, Panasonic, Yaskawa Electric, SanyoDenki Co., etc.
Security Systems Compatibilities	Fiessler FMSC, Fiessler FMSC Com, Fiessler FPSC, LazerSafe PCSS, Nuova MCS, etc.
USB ports	1 x USB 2.0, 0.5 A current capability each
Power Supply	+24Vdc @ 0.48A max.
Seal	IP65 - front side only
Handle	Included
Operating conditions	Min. 5° Celsius, max. 40° Celsius. If the ambient temperature approaches or exceeds 40° Celsius, it is advisable to install special ventilation, or even air-conditioning. Relative humidity (10 to 85% non-condensing).
EC Directives	IEC 61131-2
Languages	Chinese (simplified and traditional), Czech, Dutch, English (reference language), Finnish, French, German, Italian, Polish, Portuguese (Brazil and Portugal), Russian, Slovenian, Spanish, Swedish, Turkish.

Technical Characteristics - CybCNC3 controls

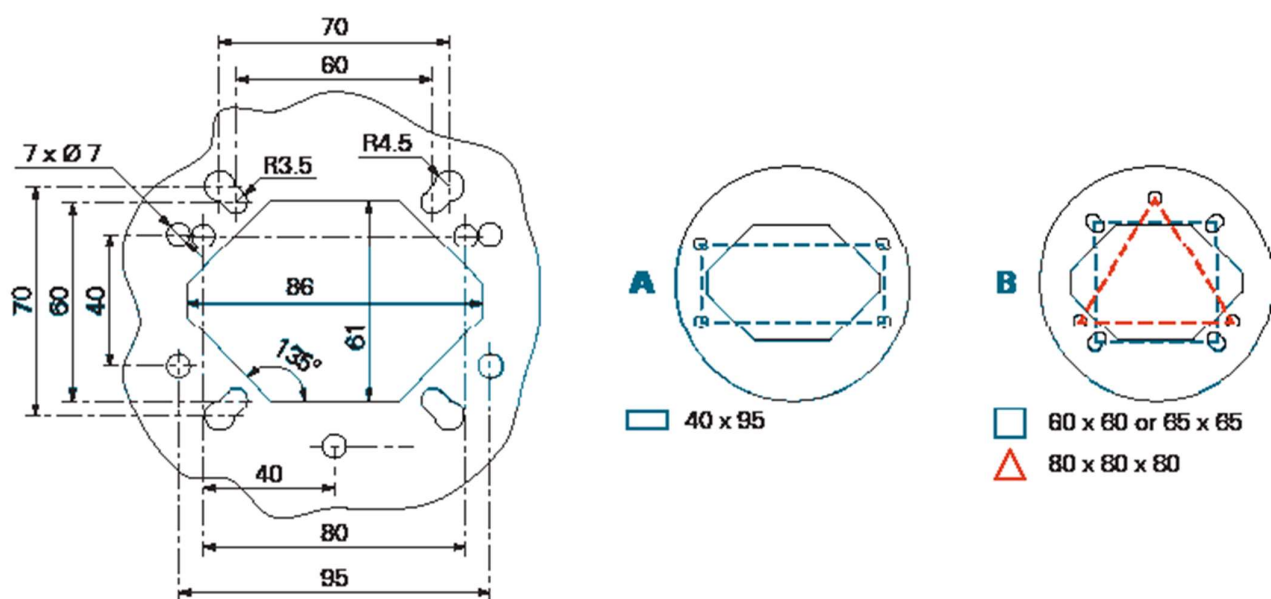
		CybCNC3 2D	CybCNC3 MX (3D)
Processor Unit	Model	Intel® Atom x5-E3940 Quad-Core @1.6GHz	Intel Atom x7-E3950 Quad core @1.6GHz
	Graphic	ATI Radeon HD series built-in	Intel Gen 9LP Graphics
	RAM	4 GB DDR3 RAM	8 GB DDR3 RAM
	Cooling	Passive Heat sink, FAN less	Passive Heat sink, FAN less
Mass Storage	Capacity Interface	32 GB CFAST memory card SATA	32 GB CFAST memory card SATA
Display Interface		DVI	Up to 1920x1200, single-link DVI-D interface
Communication Port HMI non Realtime		LAN	1 Gigabit Ethernet, RJ-45 (10/100/1000)
		USB	4 USB 2.0 port
Operating temperature		0 - 40°C	
Power Supply (Numerical Control)		+24V _{dc}	@0.4A typ.(CN without I/O – X1 connector)
RTC – Calendar Clock		Battery	Lithium CR2032 / 3V @225mA/h
I/O Processor		ARM Cortex M7 series	
Digital Input		32	4mA typ. according to IEC61131-2 type 1 & 3 Isolation 2kV Filtering – debouncing and deglitching (by step of 250μs)
Digital Output		16 8	0.5A typ. /0.7A max. according to IEC61131-2 type 3 3A typ. /5A max. according to IEC61131-2 type 3 Isolation 2kV Overvoltage and Short circuit protection Status – output in fault and no 24V IO power supply
Analog Input		4	Unifilar or differential Resolution 0-10V 12-bit (11-bit + sign)
Analog Output		6	Unifilar Resolution ±10V 12-bit (11-bit + sign), output at 0Vin fault state Resistive load 1kΩ min. / capacitive load 2.2nF max
Analog Voltage Reference		1	Unifilar Voltage 10.000 V ±3mV @ 50mA max.
Encoder Interface		4	5V or 24V, unifilar type PNP/NPN or differential Frequency 500 kHz (signal A/B) 5 MHz (signal A/Ā/B/B̄) Aux. Power – output 5V @ 1.0A (typically 4x 250mA)
Power Supply (Digital Inputs/Outputs)		+24V _{dc} @ 20A max.	
Serial Communication		1	RS-232C/RS-485, D-sub 9-pin male Data flow 115kbps
Fieldbus Interface		2 CAN 1 EtherCAT	1Mbps CAN 2.0 A, RJ-45, CANopen Master 100Mbps EtherCAT, RJ-45, Master System

Dimensions

Console version

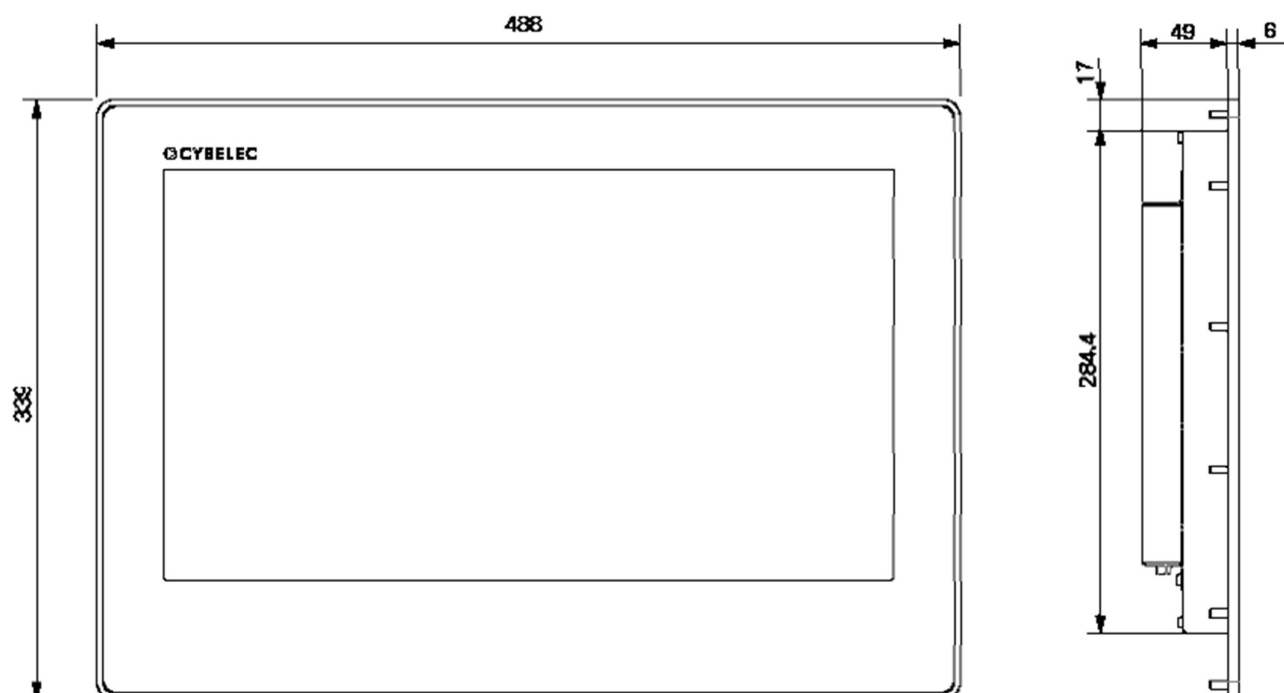


Attachment dimensions

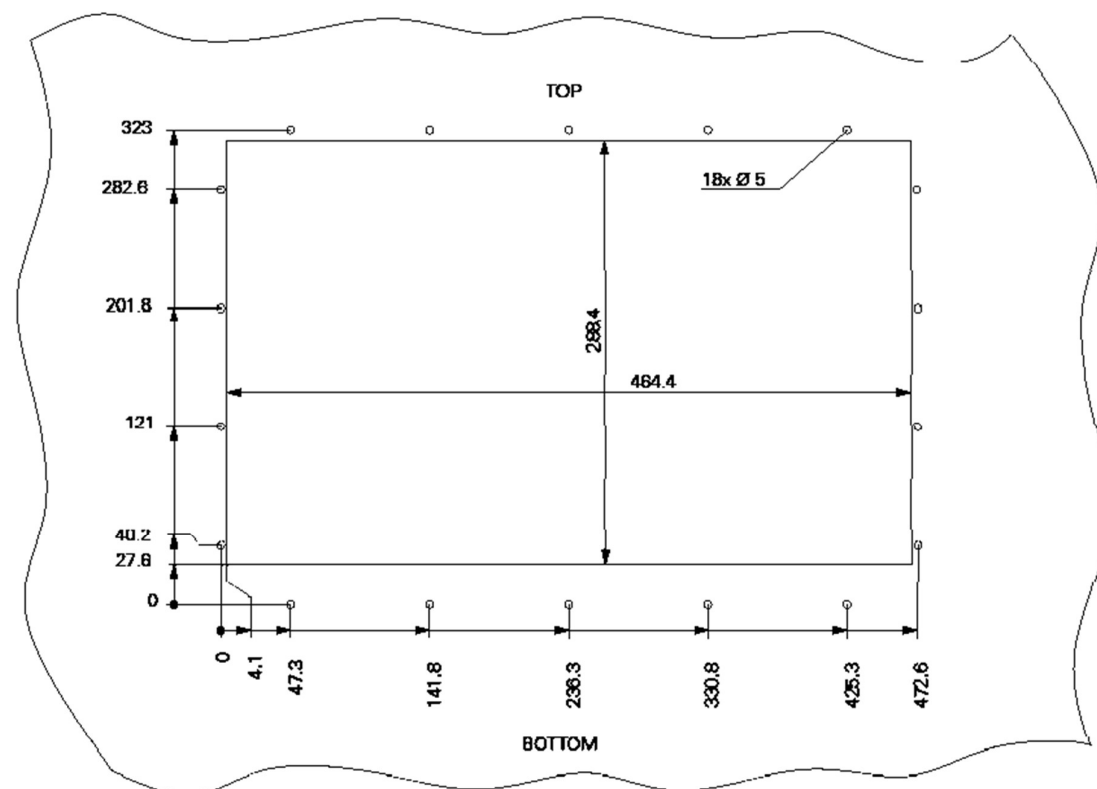


Dimensions

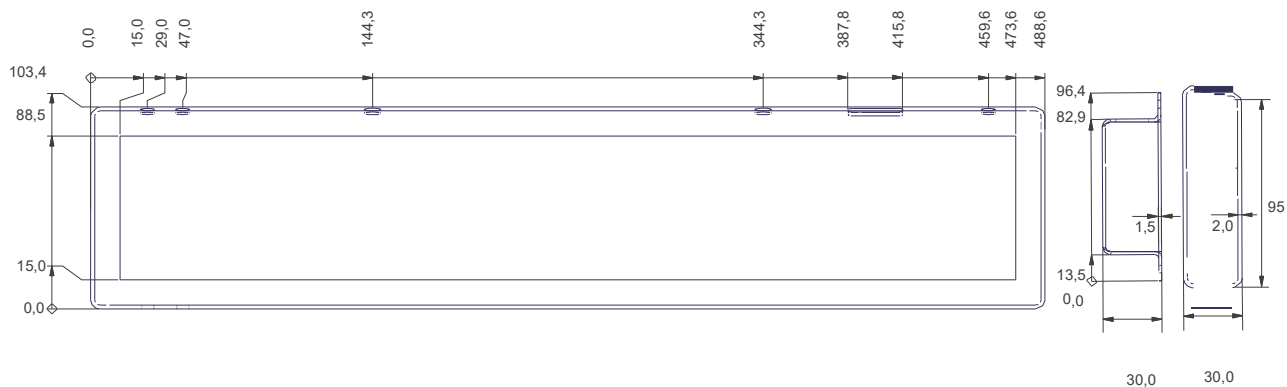
Panel version



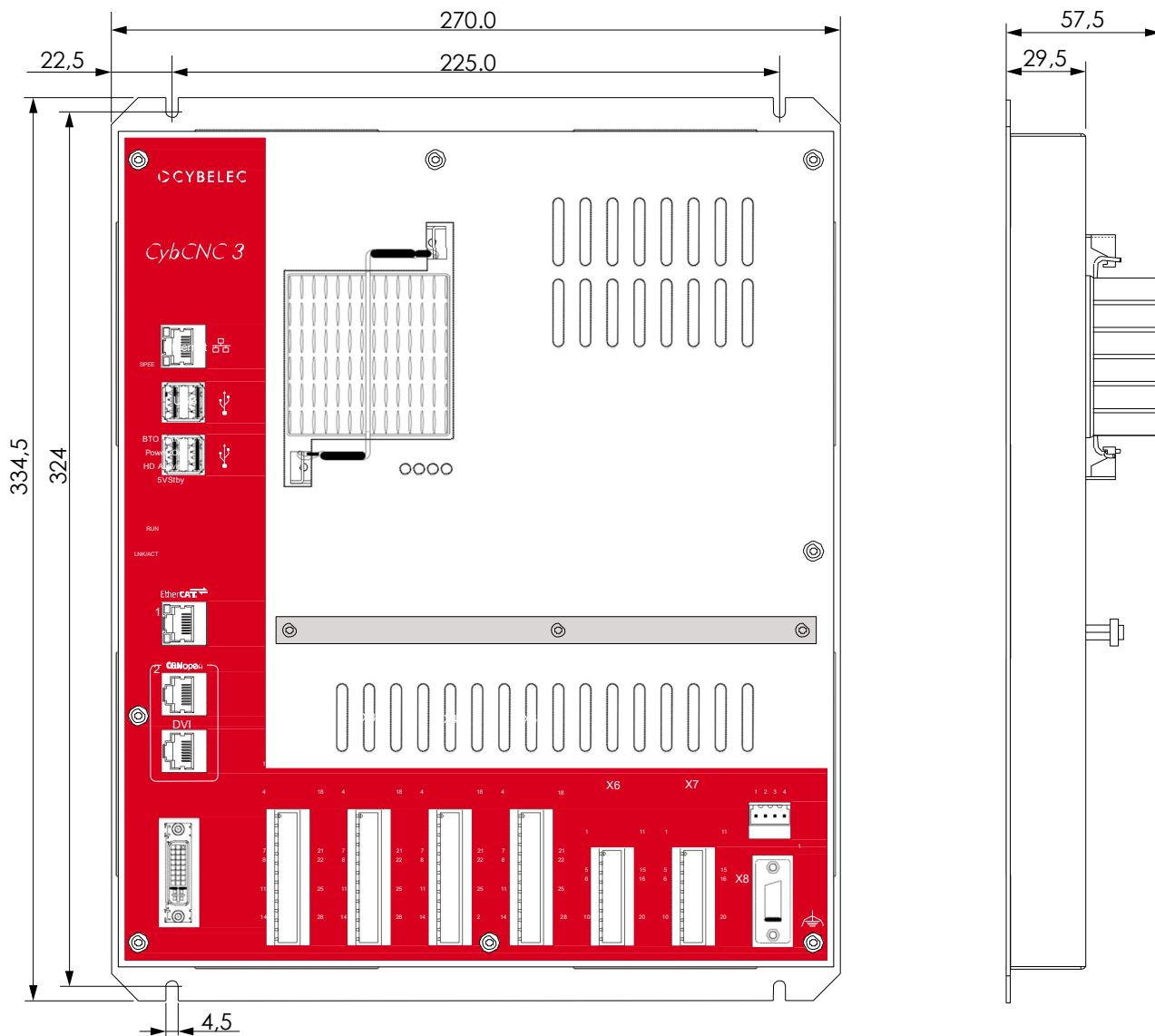
Integrating opening dimensions



Auxiliary box



CybCNC3 controls



VisiTouch ordering information

Consoles VisiTouch 19

VST-19	Console touchscreen 19"
VST-19-075	Console touchscreen 19" with DVI and USB wires 7.5m
VST-19-100	Console touchscreen 19" with DVI and USB wires 10m
S-OPT-BTAUX-S/E	Auxiliary box
VST-19/P	Panel touchscreen 19"
VST-19/P-075	Panel touchscreen 19" with DVI and USB wires 7.5m
VST-19/P-100	Panel touchscreen 19" with DVI and USB wires 10m

CybCNC3 controls

CNC-34PS24-2	4 axes (Y1, Y2, 2 axes), 32I/24O, PS-2D
CNC-34PS24-MX	4 axes (Y1, Y2, 2 axes), 32I/24O, PS-MX (3D)
CNC-34PS24-MXIMP	4 axes (Y1, Y2, 2 axes), 32I/24O, PS-MX and Import

Software options

OFT-AX	Additional axis license
OFT-IO	Additional user IO license; 4DI/4DO/1AI/1AO
OFT-BA	Bending aids and sheet support (require axes licenses)
OFT-SS	Sheet support (require axes licenses)
OFT-AM1	Automatic angle measurement (one station)
OFT-AM2	Automatic angle measurement (two stations)
OFT-GP	Group of parts and batch management
OFT-TM	Tandem management
OFT-IMP	MX Import license, DXF flat, IGES, STEP, SAT, X_T
OFT-CB	Slanted / conical bending for CybCNC3-2D
OFT-TS	Tools stations management for CybCNC3-2D
OFT-AT	Automatic thickness measurement
OFT-BC	Plugin for communication with Barcode reader, generic
OFT-SB	Plugin for communication with Lazer Safe Smart Brackets
OFT-RCG	Plugin for comm. with arm robot (incl. OFT-BA and OFT-SS)
OFT-RCA	Robot control for Cartesian robots
OFT-RAS	STEP Arm Robots control interface
OFT-ST	Statistics
OFT-I4M	Industry 4.0, statistics, status (MES)
OFT-PG	Authorization for plugin installed by customer

PC offline software

OFT-VST-2	PC offline software VisiTouch (2D)
OFT-VST-MX	PC offline software VisiTouch MX
OFT-VST-MXIMP	PC offline software VisiTouch MX including Import

Valve amplifier modules

Analog modules

S-CAH-VA6	Y1, Y2, with feedback
S-MVP-100/A	Pressure valve amplifier
S-MSV-402/A	Servo valve amplifier +/-350mA or +/-50mA

CANopen modules (require axes licenses)

MVA-0	Y1, Y2, without feedback
MVA-F0	Y1, Y2, with feedback
MVA-F0	Y1, Y2, with feedback, 2 analog axes
MVA-F2	Y1, Y2, with feedback, 4 analog axes
MVA-F4	Y1, Y2, with feedback, 6 analog axes
MVA-F8	Y1, Y2, with feedback, 8 analog axes
MVA-A0	Y1, Y2, servo-valve or with integrated amplifier
MVA-A2	Y1, Y2, servo-valve or with integrated ampl., 2 analog axes
MVA-A4	Y1, Y2, servo-valve or with integrated ampl., 4 analog axes
MVA-A6	Y1, Y2, servo-valve or with integrated ampl., 6 analog axes
MVA-A8	Y1, Y2, servo-valve or with integrated ampl., 8 analog axes