DATA SHEET

CYBELEC

INFRANOR GROUP COMPANY

Numerical control	*ModEva Pac*

ModEva Pac is designed to control synchronized press brakes (up-stroking or down-stroking) or mechanical / hydraulic stops, with 4 or 7 axes.

With its large 15-inch touch screen, its 2D graphic interface and its simple keyboard with large keys, this compact numerical control gives the operator more power and efficiency to control his machine, and at the same time a sense of easiness and comfort.

The basic functions are accessible by 6 subject-oriented keys giving access to clearly and logically designed menu pages. The bending solutions are displayed graphically in 2D and indicate possible collisions with the tools or the machine frame. The system also shows the position of the sheet between the tools.

The software enables the machine manufacturers to configure the axes, inputs/outputs and auxiliary functions according to their needs.

ModEva Pac is fully compatible with our DNC 880S and 880 or DNC 80, making it an ideal control for retrofitting old machines.

ModEva Pac is integrated into a sleek and modern housing, or can optionally also be delivered as a robust panel.

Standard software specifications

User friendliness

Improved usability thanks to the latest software version, who makes use of all the inherent simplicity and user-friendliness of the touch screen. Large function buttons, vivid colors and pop-up numerical pads with large keys all make for a more productive user experience.

TouchProfile function

Intuitively drawing a profile on the screen for fast and precise 2D program creation. Adjusting the dimensions is easily done by touching the desired angle or length and introducing its value on a pop-up numerical pad with large keys.

Remote control

Installation of any remote control software – free or licensed – of the manufacturer's choice is allowed on the NC.

Beam functions

Easy Indexing function, comprising the capacity to determine if index is passed or not, and consequently inform the operator to move the beam down. The capacity to determine if beam is desynchronized (with 2 switches directly connected to the NC) at start up, and accordingly asks the operator to press foot pedal until the beam is parallel again.

Particularities

- Conversion Inch/mm, TON/TONS etc.
- Force depending of sheet position.
- Measurement of speed, stopping time and leakage of the beam.
- Management of CE safety cycles.
- Interactive display of safety utilities and customized messages.

Memory capacity

- Infinite number of programs, which can be saved in NC memory or directly in Windows®.
- Infinite number of sequences per program.
- Infinite number of punches.
- Infinite number of dies.
- 5 Materials.
- 12 Back-gauge configurations.

Axes and bending functions

The elements listed hereafter are available and can be configured in all numerical controls supplied with standard software (within the number of axes and inputs/outputs available).

Standard Axes

- Y1 - Y2 : Synchronized axes for the beam (servo-valves, proportional valves). If a current output is needed, the MSV 402 (see Options & Accessories) becomes necessary.
- X, X1, X2, X5, X6 : Main back gauge axes.
- X1 ABS, X2 REL : Secondary back gauge axes in absolute or relative mode, generally used for motorized finger gauge.
- Z, Z2, Z5, Z6 : Axes for left/right movement of the back gauge. Possibility to program a position clearing movement ("retraction") in Z-axis for faster bending cycles.
- R, R2, R5, R6 : Back gauge height-adjustment axes.
- M1, M2 : Axes for the adjustment / movement of the die.

Pressure

Voltage output 0-10 VDC for pressure valve control. If current control is desired, the MVP 100 (see Options & Accessories) is the solution.

Dynamic crowning

Voltage output 0-10 VDC to adjust the hydraulic crowning. Dynamic correction of the bending table, the beam and axis R position. Calculated not only in relation with force, but also with sheet width. If current control is desired, the MVP 100 (see Options & Accessories) is the solution.

Angle protractor

Y1, Y2 and crowning corrections calculation based on the measure of up to 3 angles on the bend. Free interface for RS232 or wireless communication between Mitutoyo angle protractor (not included) and the NC. Uses a receiver with IBRit-Rf1 type USB interface.

Auxiliary functions F1 to F10

Configurable auxiliary functions (number eventually limited according to the type of function and management). 24 VDC voltage or logical order outputs, with or without position control by means of a potentiometer transducer. Special controls for gauge fingers, bending aids, die movements.

LazerSafe PCSS interface

Allows selecting the safety mode, and checking the LazerSafe's PCSS status and log file.

Conical folds

Comfortable programming for conical folds (requires X, X2 and adapted stop fingers).

Software options

Special axes

- X3, X4, X7, X8, Z3, Z4 : front gauge axes.
- H, H2 : rear sheet support axes (not calculated).
- H3, H4 : calculated front sheet support axes.

Message interpreter

Allows remote control of the NC with commands sent in a file via Network or RS232. Generally used for interfacing with robots, bar code readers, etc.

Tandem operation

Management of 2 or more press brakes coupled together in order to bend sheets too long to be bent with one press.

Bending aids

Management of conventional bending aids, or of simplified mechanic bending aids with 2 axes (AP and H) interpolated with the beam.

Technical characteristics

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Keyboard	Large keys, easy to use with working gloves
Screen	15 inch color Touch Screen, 1024 x 768 with LED back-light
System	Windows® 7 Embedded
CPU	AMD Fusion T40R – 1GHz
RAM	4 GB
Mass memory	16 GB flash
Communication	• 3 USB 1.1 (2x external, 1x internal) • 1 parallel (printer) • 1 RS232 • 1 RJ45 Ethernet • 1 VGA
Axes	High counting speed axes (250 KHz), with PID regulator and programmable resolution
Power supplies	• Numerical control: $\quad\quad$ + 24 VDC ±10 %, 2A (~ 50W) • Digital inputs/outputs: $\quad$ + 24 VDC ±10 %
Incremental encoder inputs	5 VDC line drivers
Digital inputs	16 inputs $\quad$ Optocoupled 24 VDC stabilized ±10 %
Analog inputs	8 inputs $\quad$ 0-10 VDC
Digital outputs	16 outputs $\quad$ Optocoupled 24 VDC, max. 0.3 A / output
Voltage outputs (axes)	4 or 7 outputs $\quad$ ±10 VDC output impedance $Z_{out}= 100\ \Omega$ Load $Z_i \geq 10\ k\Omega$
Analog voltage outputs (functions pressure, crowning or auxiliary functions)	2 outputs $\quad$ 0-10 VDC output impedance $Z_{out} = 100\ \Omega$ Load $Z_i \geq 10\ k\Omega$
Operating conditions	Min. 5° Celsius, max. 45° Celsius. Relative humidity 10 to 85% non-condensing.
Weight	• Panel version, approx. 5 kg • Box version, approx 15 kg
EC Directives	IEC61131-2
Available languages	CH-中文 (Chinese), CZ-Český (Czech), DE-Deutsch (German), DK-Dansk (Danish), ES-Español (Spanish), FI-Suomi (Finnish), FR-Français (French), GB-English, GR-Ελληνική (Greek), HU-Magyar (Hungarian), IT-Italiano (Italian), KO-한국어 (Korean), NL-Nederlands (Dutch), PL-Polski (Polish), PT-Português (Portuguese), RU-Русский (Russian), SE-Svenska (Swedish), SI-Slovensko (Slovene), TR-Türkçe (Turkish), TW-台灣 (Taiwanese). Language translation modifiable by manufacturer or end-user.

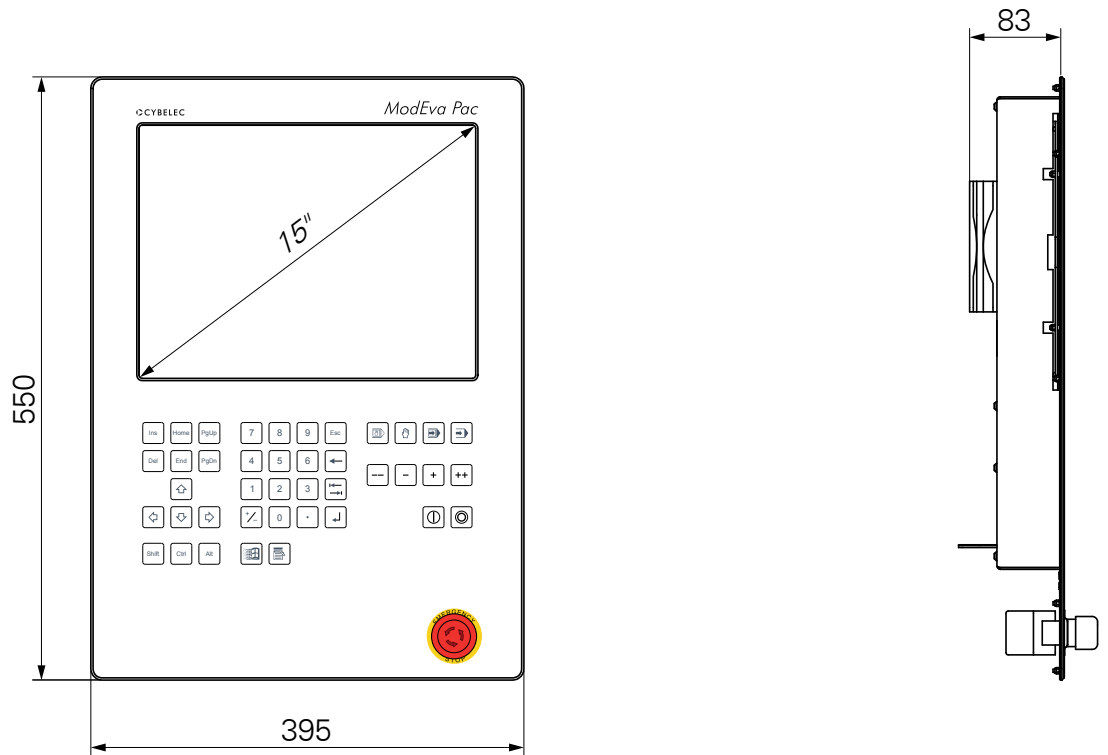# Dimensions

Box version
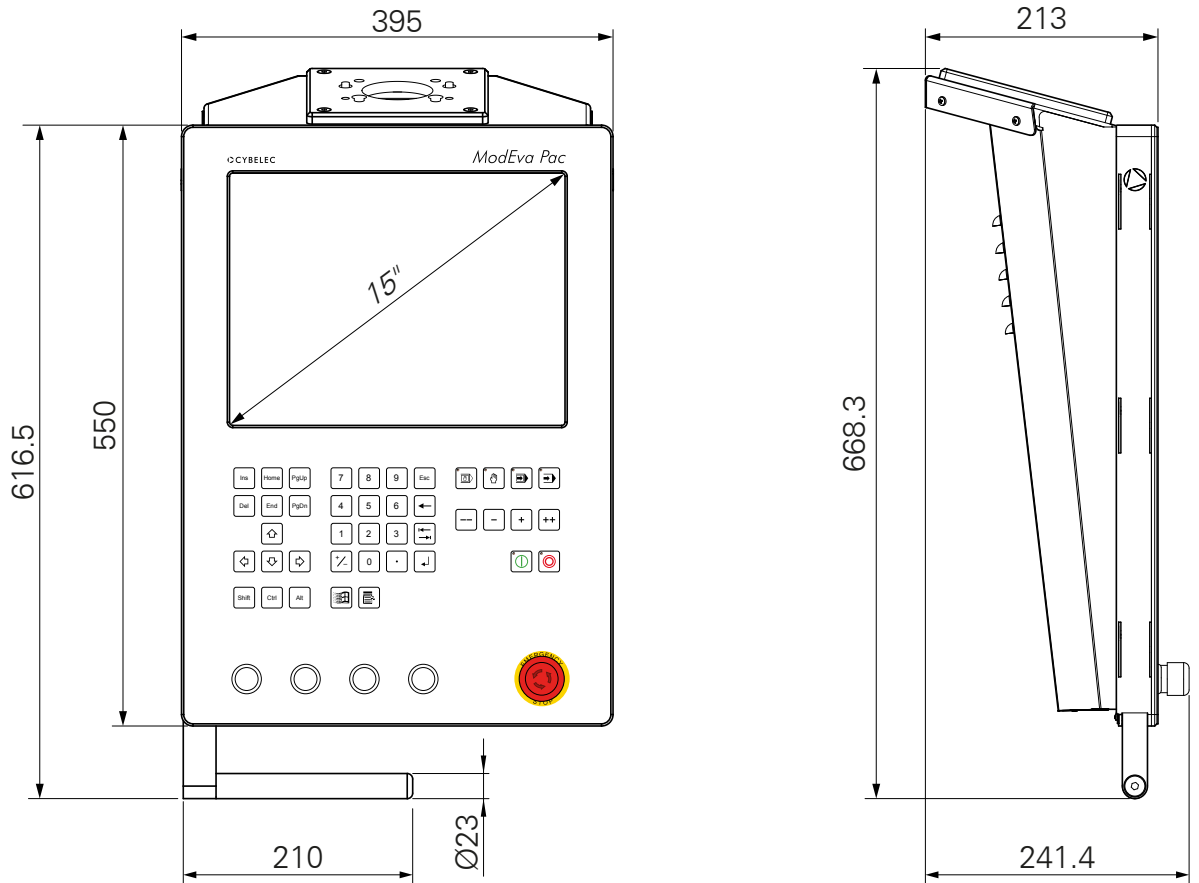
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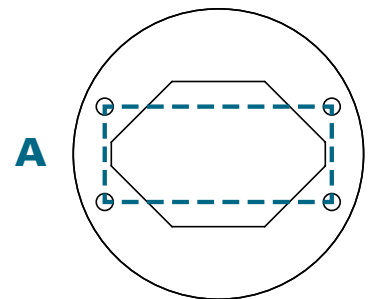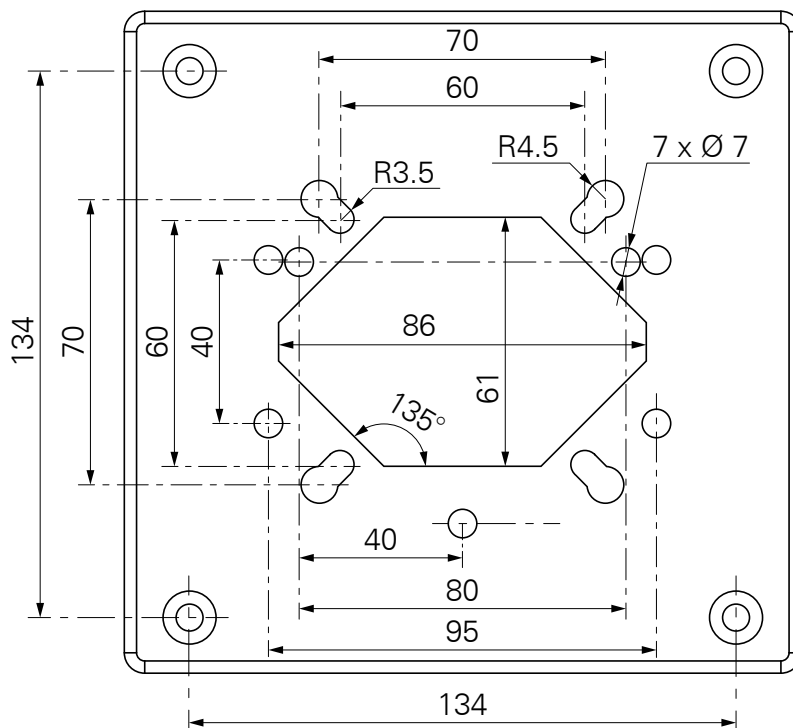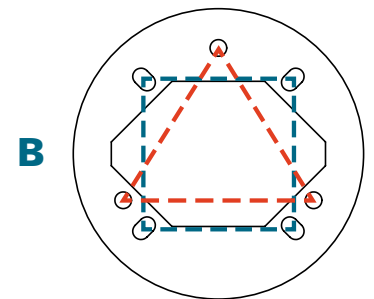
When the adapting plate is removed, the ModEva Pac attachment is mechanically compatible with DNC 880S

A

☐ 40 x 95

B

☐ 60 x 60 or 65 x 65

△ 80 x 80 x 80

Two adapters are provided. Stick the appropriate one on top of the box.

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Panel version

Integrating opening dimensions
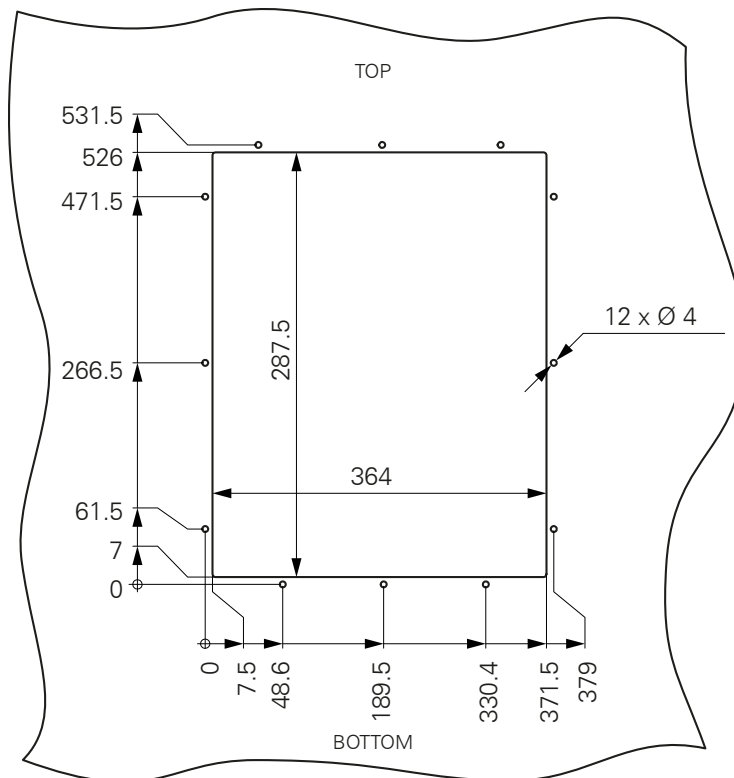
Options & Accessories

S-OFT-OPT08	Option 08, Message interpreter
S-OFT-OPT33	Option 33, Front gauge axes X3 - X4 and X7 - X8
S-OFT-OPT34	Option 34, Front gauge axes Z3 and Z4
S-OFT-OPT38	Option 38, Rear axes H1 and H2 (sheet support)
S-OFT-OPT42	Option 42, Conventional bending aids, AP1 to AP4
S-OFT-OPT52	Option 52, Front axes H3 and H4
S-OFT-OPT86	Option 86, Strain gauges
S-OFT-OPT89	Option 89, Tandem management
S-OFT-OPT90	Option 90, Bending aids with simplified mechanics, AP and H
S-OFT-OPT91	Option 91, Slave axes
S-OFT-3D	Offline software PC-ModEva 3D, CYCAD, with CD-Rom and USB key
S-CAH-CybVA6	Interface card for Hörbiger proportional valves.
S-MVP-100/A	Voltage / current conversion module (0-10V → 0-0.5 / 0-2 A) for pressure and crowning valves, to be fitted in the electric cabinet.
S-MSV-402/A	Voltage / current conversion module (±10V → ±50 mA, ±300 mA) for servo-valves.

Ordering information

Number of axis

Version
(**B**ox or **P**anel)

S-MOD-PAC7PS/BW

Press type

Color
(**W**hite)
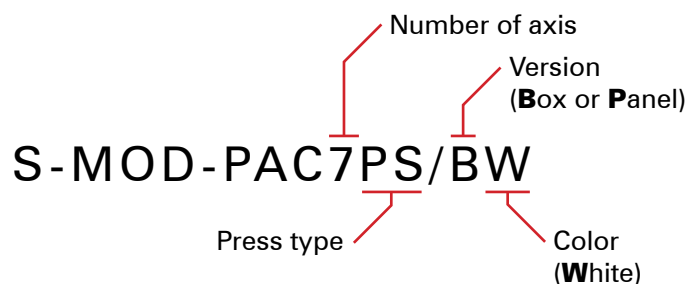
Available models

S-MOD-PAC4PS/BW
S-MOD-PAC4PS/P
S-MOD-PAC7PS/BW
S-MOD-PAC7PS/P

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