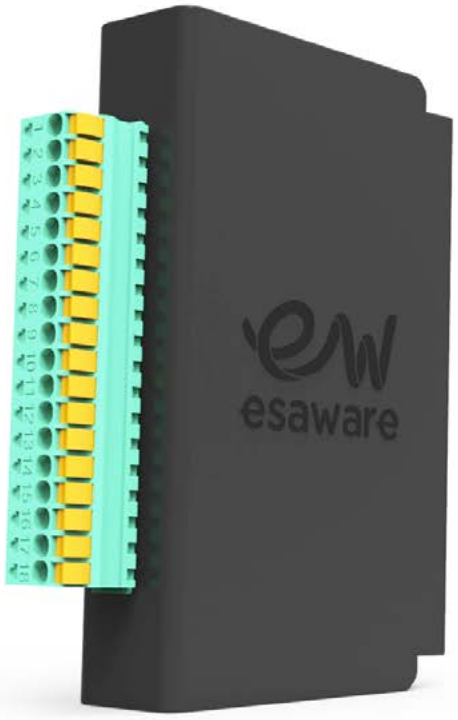
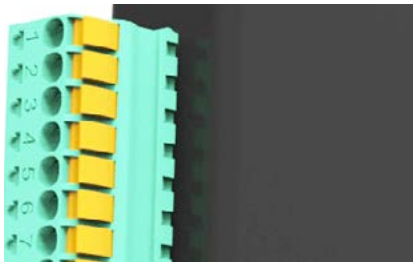
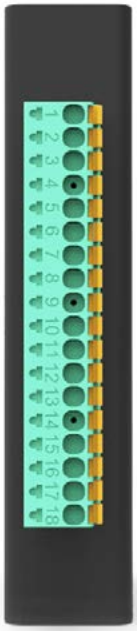


Embedded I/O
Clack & Play

Esaware I/O modules complete our HMI EW100AC series, giving you the ability to fully command and control all of your applications.

All EW600 I/Os are modular, which means that it is possible to create different configurations depending on your needs. They have been designed to guarantee excellent ergonomics and to be extremely easy to install. In fact, they offer a fast cabling system with cage clamps and can be cabled just by extracting the connectors. In addition, Esaware I/O modules are configurable via software without any dip switch or any other kind of hardware configuration.





Digital I/O – EW600B

Mixed opto-isolated input and output modules to prevent signal from suffering due to high voltages, by isolating the circuits using a LED and a receiver. That is why opto-isolators are the best solution to secure control over your plant at any time.

EW600B08B04 8 Digital Input + 4 Digital Output

Supply Voltage (Vdc)	24
Isolation	Optoisolated
Input Numbers	8
Input Type	PNP, NPN
Output Numbers	4
Output Type	PNP (300 mA/output)
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	96 x 72 x 20
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

Analog I/O – EW600A

Mixed input and output modules to manage analog signals produced by the field and to regulate all actuators. Thanks to a powerful signal-processing unit, they guarantee high precision control.

EW600A03A02 3 Analog Input + 2 Analog Output

Supply Voltage (Vdc)	24
Input Numbers	3
Input Type	0 / 5 V, 0 / 10 V, +10 / -10 V, 0 / 20 mA, 4 / 20 mA
Output Numbers	2
Output Type	0 / 5 V, 0 / 10 V, +10 / -10 V, 0 / 20 mA, 4 / 20 mA
Resolution	16 Bit
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	96 x 72 x 20
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

High Speed Input – EW600C

Opto-isolated input modules for fast signal input or fast counter up to 100 KHz.

EW600C02N00 2 High Speed Input

Supply Voltage (Vdc)	24
Input Numbers	2
Input Type	Incremental Pulse / Differential Phase (4x) / Up/Down / Pulse + Direction (5-30 Vdc)
Isolation	Optoisolated
Frequency (KHz)	100
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	96 x 72 x 20
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

Thermocouples Input – EW600D

Input modules for thermocouples sensors with internal or external cold junctions. Thanks to the powerful signal-processing unit, they guarantee very high resolution.

EW600D06N00 6 Thermocouple Input

Input Numbers	6
Input Type	K / J / E / T / N / B / R / S
Resolution (°C)	+ 0,1 / - 0,1
Cold Junction	Internal and External
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	96 x 72 x 20
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

Thermoresistances Input – EW600E

Input modules for thermoresistance sensors. Thanks to the powerful signal-processing unit, they guarantee very high resolution.

EW600E04N00 4 Resistance Thermometer Input

Input Numbers	4
Input Type	Pt100 / Pt200 / Pt500 / Pt1000 / Ni100 / Ni1000
Resolution (°C)	+ 0,1 / - 0,1
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	-10 ... + 50 non condensing
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

High Speed Output – EW600N

High speed output modules to command signals up to 300 KHz.

EW600N00C04 4 High Speed Output

Supply Voltage (Vdc)	24
Output Numbers	4
Isolation	Optoisolated
Output Type	CW/CCW - Pulse+Direction 12 – 32VDc push-pull
Output Current (mA)	5 - 10
Resolution (Hz – KHz)	200Hz – 300KHz
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	96 x 72 x 20
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

PWM (Pulse with modulation) Output – EW600N

PWM output modules to command signals up to 300 KHz.

EW600N00E04 4 PWM Output

Supply Voltage (Vdc)	24
Output Numbers	4
Isolation	Optoisolated
Output Type	PWM – 12 – 32 Vdc push-pull
Output Current (mA)	5 - 10
Resolution (Hz – KHz)	200Hz – 300KHz
Operating Temperature (°C)	-10 ... + 50 (non condensing)
Storage Temperature (°C)	-20 ... + 65
Humidity	<90% (non condensing)
External dimensions (W/H/D) (mm)	96 x 72 x 20
Protection Degree	IP 20
Certifications	CE / EN60068-2-6 / EN60068-2-27 / Humidity EN60068-2-30 / EAC ATEX 2014/34/UE directive Group II Category 3 G D Zone 2/22 (mounted on EW100AC)

Remote I/O

High density in a small size

9X remote I/O are designed to be housed directly on the machine. Their main features of the sturdiness and I/O density in small spaces. They are housed in sturdy metal containers with wall fixing or DIN rails. They are easy to install as they are supplied with connectors with screw-on terminals. Each unit represents a single node which can be set via Dip-Switches. There are interesting mixes of digital input/outputs and analogue input/ outputs, relay outputs, inputs for thermocouples etc.

These are 9X main features:

- CANOpen DS401, Modbus RTU protocol
- Communications status LED on bus
- Communication set via dip –switches
- The digital inputs have a hardware filter

Codes	Specifications
9XD168V	16 digital inputs / 8 digital outputs
9XD1616V	16 digital inputs / 16 digital outputs
9XD16168IOV	16 digital inputs / 8 digital outputs / 8 programmable inputs and outputs
9XD1688RV	16 digital inputs / 8 digital outputs / 8 relay outputs 5 A 250 VAC
9XMF1D44V	4 digital inputs / 4 digital outputs / 4 analog inputs +/-10 volt resolution 1024 points 4 analog outputs +/-10V resolution 1024 points, differential encoder input A,A/ B,B/Index Index/
9XMF2D168V	16 digital inputs / 8 digital outputs / 4 analog inputs +/-10 volt resolution 65536 points 2 analog outputs +/-10V resolution 65536 points
9XD4IOPRESS	Module for the direct detection of compressed air pressure with air pipes directly on the module. 4 inputs from 200 to 750 mBAR . resolution 10 mBAR , precision 50 mBAR

Remote I/O
e-motion technology

Distributed I/O modules and remote AXES represents the best technical solution for anyone engaged in automation engineering, significant cost reductions can be achieved by simplifying wiring and commissioning on any machine.
Thanks to their modularity and the numerous models available you can, strategically distribute the elements to simplify and optimize the on-board machine systems.
The connection between the PAC and the modules is made via a CAN bus network on a standard CAN Open protocol, which provides noise immunity, with the consequent security of the data transmitted, and extremely fast installation.

Uncompromising remote control axes
the E1127 Can Bus Axis card is equipped with two encoder inputs with a band of 200 KHz which is fully configurable (line drivers, 5V or 12V open collector). The E1123 version allows the same performance by managing stepper motors or drives directly with Step+Dir output.

Maximum ergonomics
the vertical mounting system exclusive to ESA Automation is the most ergonomic solution on the market.

Total configurability
each E1120 bridge can fit eight ESA Automation Can Bus cards. Up to 127 E1120 bridges can be routed on one CAN channel.

These are main features of Remote I/O

- Can Bus - Standard Can Open DS 301 (Ds 402) profile
- 3 different layouts available (din rail / wall mounted / boxed)
- Local Risk high speed CPU
- Up to 700 mA max current on digital output
- Short circuit protected digital output
- NPN/PNP configurable digital input
- 5V /12 V configurable on board encoder power supply
- Line driver / Open Collector encoder type configurable on board input
- Zero (Z and Z/) input logic state configurability
- Mono/bidirectional encoder input configurability
- Up to 200 Khz encoder input
- Step + Dir configurable PNP /NPN output
- Up to 65 Khz stepper output
- Drive “OK” or “Fault” separate digital input
- 5V or 12V on board configurable Step + Dir output voltage

E1120

Card CAN NODE DIN rail	BRIDGE
Power Supply	+24Vdc power consumption 100mA
I/O	Local BUS for expansion cards E1121, E1122, E1123, E1 124, E1127, E1191, E1192
Dimensions	128 x93 mm

E1121

Card 16 DIGITAL INPUTS PNP/NPN Opto for E1120	INPUT
INP Power Supply	Common with +24Vdc (NPN) or ground (PNP) in groups of 8
Inputs	The input stage is sized for a value of Vin > +15Vdc (typical +24Vdc)

E1122

Card 16 DIGITAL OUTPUTS PNP for E1120	OUTPUT
OUT Power Supply	2 common with +24Vdc, common GND with E1120
Outputs	Typical current 500mA each output, maximum 700mA in groups of 4
Protections	From short-circuit, temperature

E1123

Card 2 STEPPER AXES for E1120	STEPPER
Control Outputs	PNP +5V or +12V (Enable, DIR, Current)
STEPPER Outputs	PNP or NPN
Frequency	min 38Hz, max 65KHz
Fault Input	PNP or NPN +5V, +12V, +24V

E1124

Card 8 ANALOG INPUTS for E1120	ANALOG
POT power supply	Reference voltage + 5Vdc 5mA for external potentiometers
Inputs	Independently selectable as 0/5V - 0/10V - 0/20mA resolution 12bit

E1127

Card 2 ANALOG AXES for E1120	AXIS
ENC Power Supply	+ 12V+5V selectable separately for the 2 axes
ENCODER	Line-Driver/Open Collector (mono/bi-directional)
Analog Output	2 x +- 10V 12 bit
Frequency	Open Collector: 100Khz, Line Driver:200Khz

Layout

DIN rail Layout	DIN rail module for combination of up to 8 cards with E1120 BRIDGE
Boxed Layout	Stainless Steel module for combination of up to 3/6 CARDS with E1120 BRIDGE
Wall Mounted Layout	Wall Mounted module for combinations up to 8 cards on E1120 BRIDGE