

**DATA SHEET**  
**“CUA-USB-XY2-24V” AND “CUA-ETH-XY2-24V” CONTROL UNITS**

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**NEWSON NV**

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## 1 CONTROL UNIT

### 1.1 MAIN FEATURES

- Interface to XY and XYZ deflection units with the XY2-100 standard
- Available with USB or Ethernet interface
- Synchronization between scanning motion and laser control signals
- 5  $\mu$ sec DSP cycle time
- Configurable laser control signals for most commonly used laser
- Marking-On-The-Fly capabilities on board
- Master-Slave operation
- DLL driver software for Windows XP, Windows Vista, Windows 7, Windows 8
- Power connector to power the deflection unit over XY2-100 connection

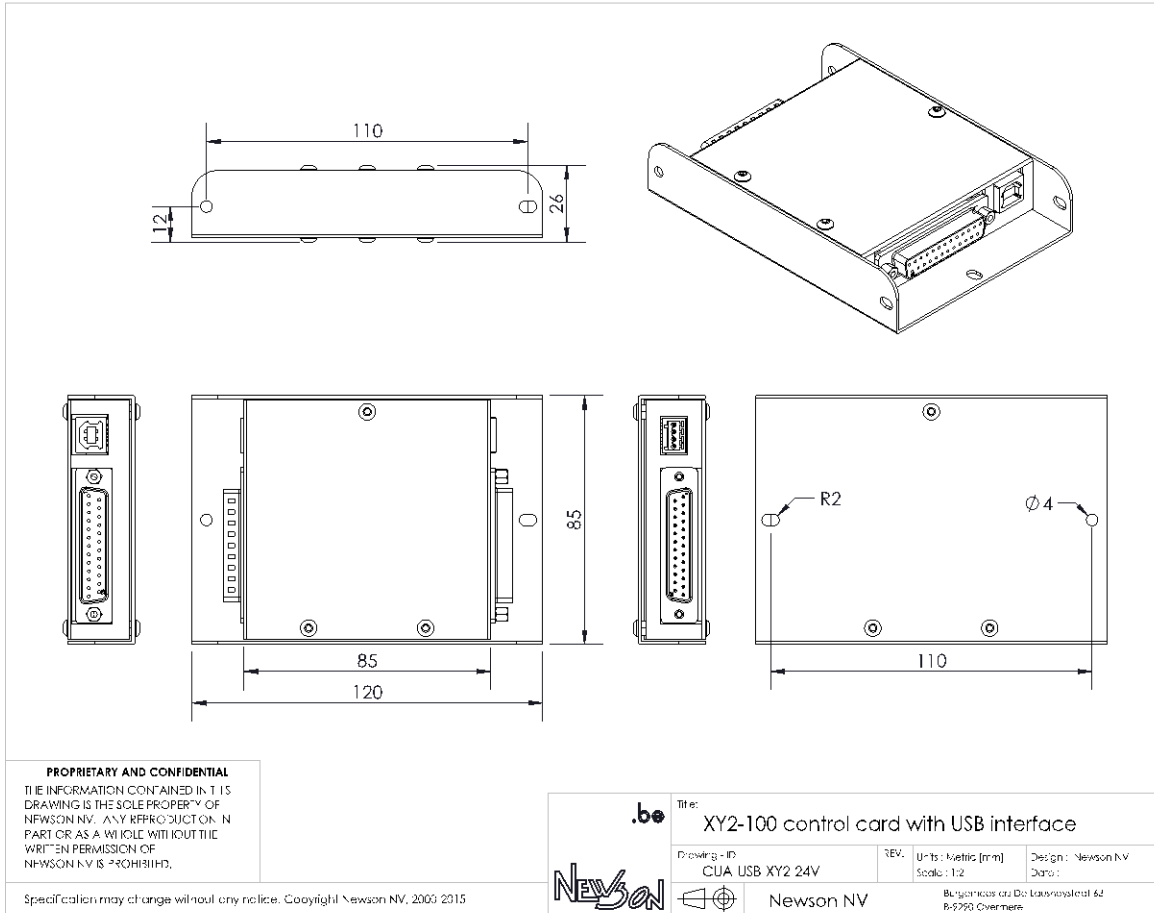


The CUA-XY2-24V control card interfaces to deflection units via the XY2-100 standard. Digital Input and Outputs ports are available. The ports can be configured to generate laser signals for most common laser types like laser modulation, laser gate. Through the ports interfacing is possible with external equipment.

Through a windows DLL the deflection unit can be controlled using intuitive software methods like `rtJumpTo`, `rtLineTo`, `rtArcTo`, `rtSetSpeed`, ...

See manual "A2G\_App02" for more information.

## 1.2 DIMENSIONS



## 2 X6: CONNECTOR TO APPLICATION COMPUTER

### 2.1 USB CONNECTOR (CUA-USB)

Compliant with the Universal Serial Bus specification Rev. 2.0 at full speed data rate of 12 Mbit/s. The port is galvanic isolated, ESD protected and needs to be powered from the bus (bus-powered device).

Description	Name	Min	Typ	Max	Units
Galvanic isolation voltage	VGALVANIC			100	V
Bus-powered input voltage	VPOWER		5		V
Bus-powered input current	IPOWER			100	mA

### 2.2 ETHERNET CONNECTOR (CUA-ETH)

Ethernet connector. Use cross cable to connect control unit with application PC.

### 3 X7: DIGITAL I/O CONNECTOR

#### 3.1 CONNECTOR TYPE

Sub D 25 poles, female type

#### 3.2 PIN DESCRIPTIONS

Pin No.	Name	Description
1 / 14	IO1- / IO1+	Differential I/O, RS485 compliant, no termination.
2 / 15	IO2- / IO2+	Differential I/O, RS485 compliant, no termination.
3 / 16	IO3- / IO3+	Differential I/O, RS485 compliant, no termination.
4 / 17	IO4- / IO4+	Differential I/O, RS485 compliant, no termination.
5 / 18	IO5- / IO5+	Differential I/O, RS485 compliant, no termination.
6 / 19	IO6- / IO6+	Differential I/O, RS485 compliant, no termination.
7 / 20	IO7- / IO7+	Differential I/O, RS485 compliant, no termination.
13	REF_IO	Reference I/O, internally connected to DC0V over 100R resistor.
21	DC+5V	DC output, for use by external electronics.
8	DC0V	DC output, for use by external electronics.
10,11,23	DC+24V	Power supply input
12,24,25	DC0V	Power supply input

All IO-signals meets the requirements of the TIA/EIA-485A standard. The control unit is fitted with SN65HVD485E transceivers from Texas Instruments. The functionality of the IO depends on the configuration. See manual "A2G-Cfg01" for more information.

#### 3.3 DC OUTPUT SPECIFICATIONS

Description	Name	Min	Typ	Max	Units
OUTPUT VOLTAGE	DC+5V	4.80	5.00	5.05	V
Output current	I <sub>DC+5V</sub>			50	mA

#### 3.4 POWER SUPPLY INPUT SPECIFICATIONS

Description	Name	Min	Typ	Max	Units
Power supply input voltage	DC+24V	9	24	30	V
Power supply input current	I <sub>DC+24V</sub>		0.1		A

#### WARNING:

The control unit is not protected against reverse polarity.

Reverse polarisation of the applied power supply will damage the control card.

## 4 XY2-100 CONNECTOR TO DEFLECTION SYSTEM

### 4.1 CONNECTOR TYPE

Sub D 25 poles, male type

### 4.2 PIN DESCRIPTIONS

Pin No.	Name	Description
1 / 14	IO1- / IO1+	SENDCK: Continuously running clock
2 / 15	IO2- / IO2+	SYNC: Synchronises data transfer
3 / 16	IO3- / IO3+	CHANNELX: Data to X axis
4 / 17	IO4- / IO4+	CHANNELY: Data to Y axis
5 / 18	IO5- / IO5+	CHANNELZ: Data to Z axis
9,10,22	PWS+ out	Scanner power supply output
11,23,24	PWS0 out	Scanner power supply output, internally connected to DC0V over 100R resistor.
12,13,25	PWS- out	Scanner power supply output

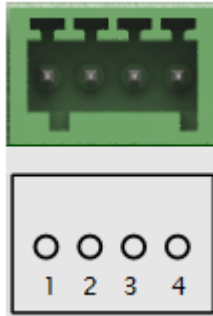
All IO-signals meets the requirements of the TIA/EIA-485A standard. The control unit is fitted with SN65HVD485E transceivers from Texas Instruments.

## 5 SCANNER POWER SUPPLY INPUT

### 5.1 CONNECTOR TYPE

Phoenix MC 0,5/4-G-2,5

### 5.2 PIN DESCRIPTIONS



Pin No.	Name	Description
1	PWS+ in	Scanner power supply input, internally connected to PWS+ out of XY2-100 connector
2,3	PWS0 in	Scanner power supply input, internally connected to PWS0 out of XY2-100 connector
4	PWS- in	Scanner power supply input, internally connected to PWS- out of XY2-100 connector