

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

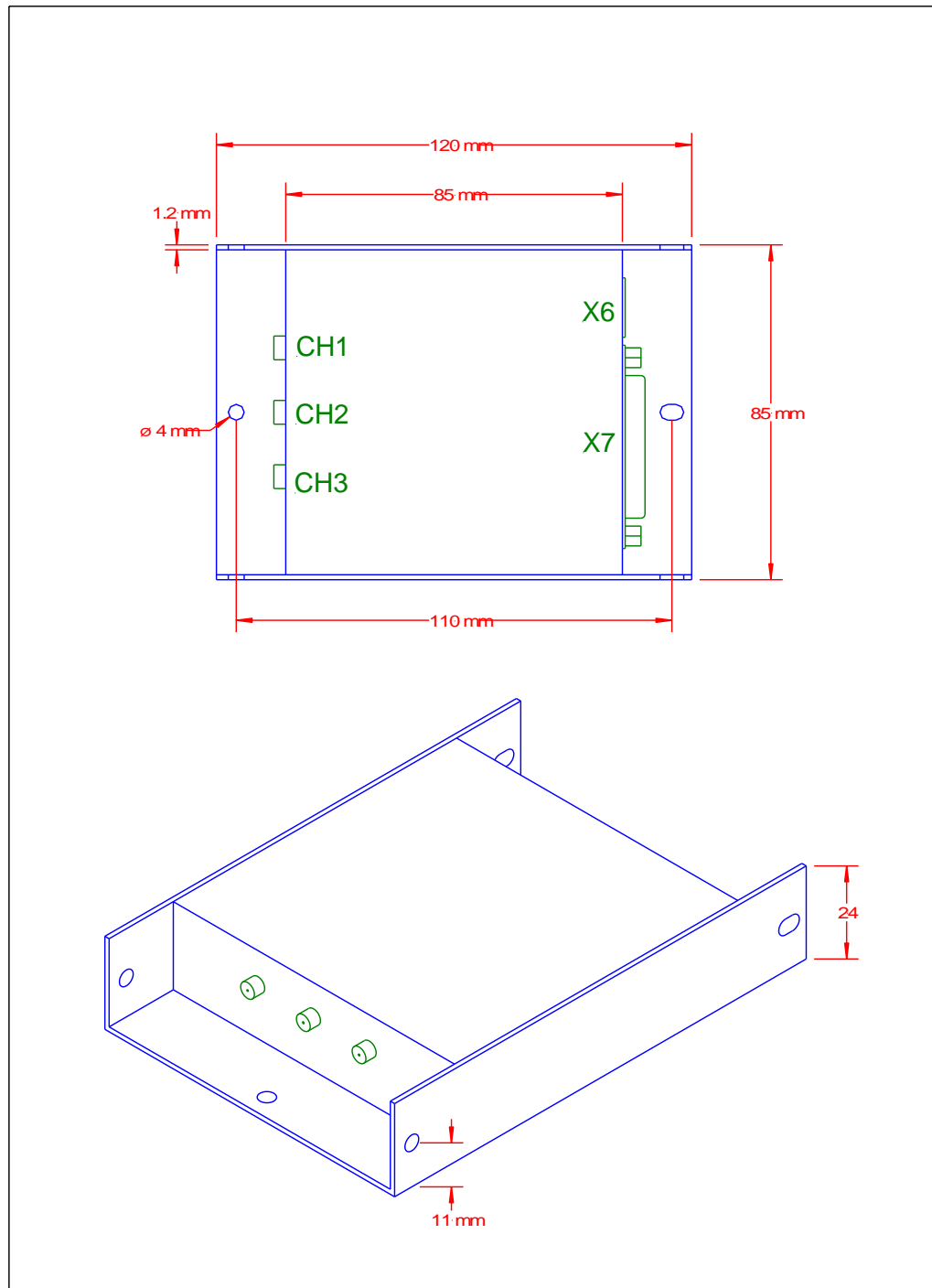
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**NEWSON ENGINEERING NV**

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# 1 CONTROL UNIT



## 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, 100 ohm termination.
2 / 15	IO2- / IO2+	Differential I/O, RS485 compliant, 100 ohm termination.
3 / 16	IO3- / IO3+	Differential I/O, RS485 compliant, 100 ohm termination.
4 / 17	IO4- / IO4+	Differential I/O, RS485 compliant, 100 ohm 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+12V	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>			200	mA

### 3.4 POWER SUPPLY INPUT SPECIFICATIONS

Description	Name	Min	Typ	Max	Units
Power supply input voltage	DC+12V	9	12	13	V
Power supply input current	IDC+12V		0.5	1.5	A (*)
			1	2.5	A (**)
Power supply input peak current			7		A (***)

(\*) for a 2D deflection system, CH1 and CH2 connected to rhothor™ smart deflectors (RTA)

(\*\*) for a 3D deflection system, CH1 and CH2 connected to rhothor™ smart deflectors (RTA), CH3 connected to ELEVAthor™ smart deflector (ELA).

(\*\*\*) Peak current level and frequency depends on deflector movements. Peak current duration approx. 200µsec. The applied power supply should be 12V DC. However during current spikes, the input voltage is allowed to drop to 9V.

**WARNING:**

**The control unit is not protected against reverse polarity.**

**Reverse polarisation of the applied power supply will damage the system.**

## 4 CH1, CH2 & CH3: CONNECTORS TO SMART DEFLECTORS

### 4.1 CONNECTOR TYPE

SMA type coax connector, impedance 50 ohm.

### 4.2 CONNECTION

In an 2D-deflection solution, CH1 and CH2 should be connected to rhothor™ smart deflectors (RTA). In an 3D-deflection solution, CH3 should be connected to an ELEVAthor™ smart deflector (ELA). These connections should be done by means of a standard 50 ohm coaxial cable with a length not more than 5 meter. The nuts of the cable should be tightened by a wrench to a torque of approx. 1,5 Nm.

#### **WARNING:**

**The deflectors are not hot pluggable.**

**Always switch off power supply before connecting a deflector.**