



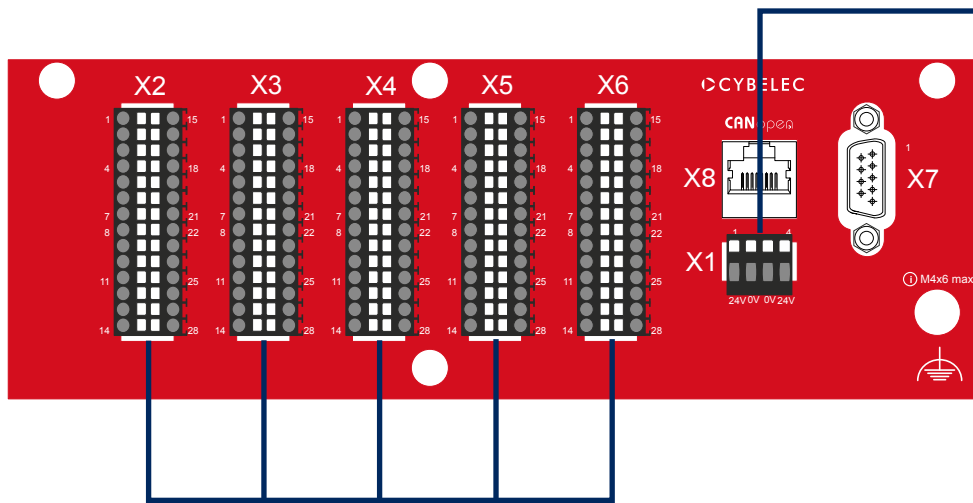
USER GUIDES



CYBTOUCH 12G KULLANMA KILAVUZU

Input/Output list

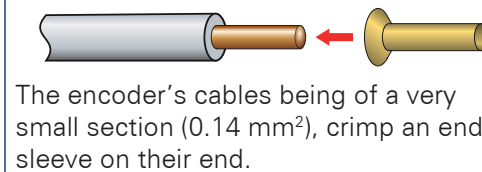
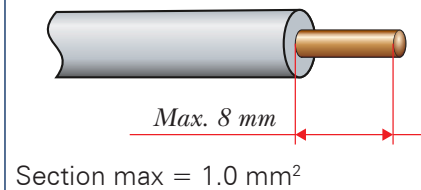
CybTouch 12 G (16/20io SBC-200C)



X1 Power Connector		
X1	Signal	Default I/O
1	24 V	24 VDC DNC
2	0 V	0 V DNC
3	0 V	0 V DNC
4	DAUX (Auxiliary digital output, see below)	Pump ON

Connectors X2 to X6
= Weidmüller B2L 3.5/28/180 SN BK

! Max 4 A / connector pin.



Auxiliary Digital Output

The auxiliary output DAUX is the only input supplied by 24 V NC. It is mostly designed to start the pump even if 24 V I/O was cut by the pump relay.

This output is also the only output not protected by a fuse.

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 X6 are connected together
- ◇ Digital outputs 1 to 12 are capable of driving a load up to 0.7A maximum (X2-X3).
- ◇ Digital outputs 13 to 20 are capable of driving a load (for example valves) up to 3 A maximum (X4).
- ◇ Digital outputs are short-circuit and overload protected.
- ◇ Inductive loads must be equipped with surge suppressors.
- ◇ See basic diagram.

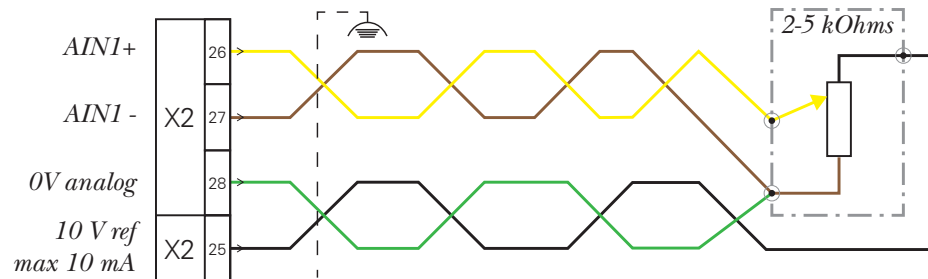
Crowning Wiring

A 4 wires shielded cable must be used for the potentiometer.

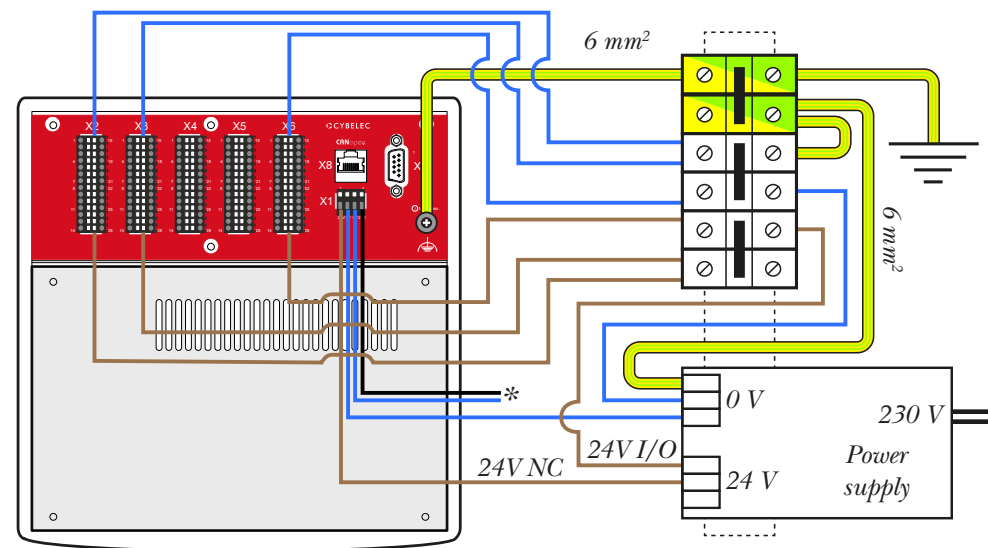
X2/27 and X2/28 terminals must be connected together at one side of the potentiometer.

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 pair shown.



Earth and 24 VDC Wiring



* See also [Auxiliary Digital Output, page 1](#).



It is recommended that each supply connections (24V & 0V) is individually connected to the power supply. A series connection is strongly advised against.

It is also recommended to separate the 24V I/O from the 24V NC.

X2 I/O Connector



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	Enable X axis
3	OUT 2	
4	0 V I/O	0 V electrical box
5	OUT 3	
6	OUT 4	Blade down
7	0 V I/O	0 VDC electrical box
8	OUT 5	Blade up
9	OUT 6	
10	0V I/O	0 VDC electrical box
11	AOUT 1	10 VDC reference
12	0V analog	0 VDC analog out
13	AOUT 2	X1 axis
14	0V analog	0 VDC analog out

X2	Signal	Default I/O
15	24V I/O	24 VDC electrical box
16	IN 1	Pedal
17	IN 2	Automatic cut
18	IN 3	TDC max
19	IN 4	BDC min
20	0V I/O	0 VDC electrical box
21	IN 5	X index zone
22	IN 6	
23	IN 7	
24	IN 8	
25	10V ref	10 VDC reference (max 25 mA.)
26	AIN1 +	Blade gap
27	AIN1 -	
28	0V analog	0 VDC analog out



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

X3 I/O Connector

X3	Signal	Default I/O
1	24V I/O	24 VDC electrical box
2	OUT 7	Blade gap +
3	OUT 8	Blade gap -
4	0V I/O	0 VDC electrical box
5	OUT 9	
6	OUT 10	
7	0V I/O	0 VDC electrical box
8	OUT 11	
9	OUT 12	Pump on
10	0V I/O	0 VDC electrical box
11	AOUT 3	
12	0V analog	0 VDC analog out
13	AOUT 4	
14	0V analog	0 VDC analog out

X3	Signal	Default I/O
15	24V I/O	24 VDC electrical box
16	IN 9	
17	IN 10	
18	IN 11	
19	IN 12	
20	0V I/O	0 VDC electrical box
21	IN 13	
22	IN 14	
23	IN 15	
24	IN 16	
25	0V analog	0 VDC analog out
26	AIN2 +	
27	AIN2 -	
28	0V analog	0 VDC analog out

X4 I/O Connector

X4	Signal	Default I/O
1	24V I/O	24 VDC electrical box
2	24V I/O	24 VDC electrical box
3	OUT 13	
4	OUT 14	
5	0V I/O	0 VDC electrical box
6	OUT 15	
7	OUT 16	
8	0V I/O	0 VDC electrical box
9	n/a	
10	n/a	
11	0V analog	
12	AIN3 +	
13	AIN3 -	
14	0V analog	

X4	Signal	Default I/O
15	24V I/O	24 VDC electrical box
16	24V I/O	24 VDC electrical box
17	OUT 17	
18	OUT 18	
19	0V I/O	0 VDC electrical box
20	OUT 19	
21	OUT 20	
22	0V I/O	0 VDC electrical box
23	n/a	
24	AOUT 7	
25	0V analog	
26	AIN4 +	
27	AIN -	
28	0V analog	



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

X5 Encoder Connector

X5	Signal	Assignment
1	5V encoder	5V out for encoder X1
2	0V encoder	0V out for encoder X1
3	A1+	A signal of encoder X1
4	A1 -	A - signal of encoder X1
5	0V encoder	
6	5V encoder	
7	0V encoder	
8	A2+	
9	A2 -	
10	0V encoder	
11	5V encoder	
12	0V encoder	
13	A3+	
14	A3 -	

X5	Signal	Assignment
15	Z1+	Index encoder X1
16	Z1 -	Index - encoder X1
17	B1+	B signal of encoder X1
18	B1 -	B - signal of encoder X1
19	0V encoder	
20	Z2+	
21	Z2 -	
22	B2+	
23	B2 -	
24	0V encoder	
25	Z3+	
26	Z3 -	
27	B3+	
28	B3 -	



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 \(see page 9\)](#) 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- 

X6 Encoder Connector

X6	Signal	Assignment
1	24V I/O	24 VDC electrical box
2	24V I/O	24 VDC electrical box
3	n/a	
4	n/a	
5	0V I/O	0 VDC electrical box
6	n/a	
7	0V I/O	0 VDC electrical box
8	5V encoder	
9	0V encoder	
10	A4 +	
11	A4 -	
12	0V analog	
13	AOUT 5	
14	0V analog	

X6	Signal	Assignment
15	24V I/O	24 VDC electrical box
16	24V I/O	24 VDC electrical box
17	n/a	
18	n/a	
19	0V encoder	
20	n/a	
21	0V I/O	0 VDC electrical box
22	Z4 +	
23	Z4 -	
24	B4 +	
25	B4 -	
26	0V analog	
27	AOUT 6	
28	0V analog	



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 \(see page 9\)](#) for more details.

Encoder inputs support encoders without inverted signals.

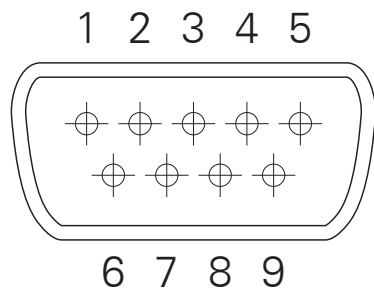
The encoder's cables being of a very small section (0.14 mm²), crimp an end sleeve on their end.



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

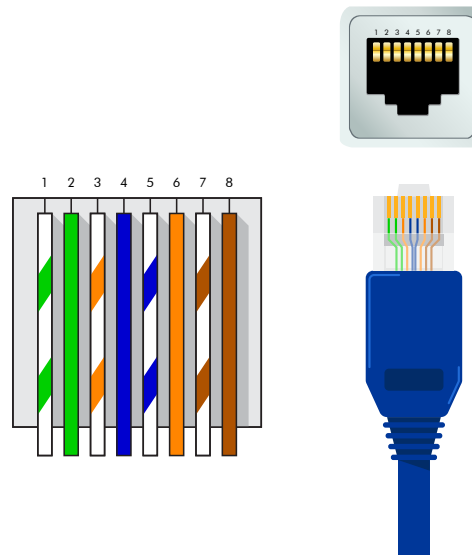
It will result in a bad indexation procedure (loss of precision), difficult to trace or no indexation at all. If this happens try to invert index signals. Z+  and Z- 

X7 Serial Port Connector



X7	Signal
1	/
2	IN RXD
3	OUT TXD
4	OUT DTR
5	0V encoder
6	IN DSR
7	OUT RTS
8	IN CTS
9	/

X8 CANopen Connector



X8	Signal
1	CAN_H
2	CAN_L
3	GND
4	Not used (open)
5	Not used (open)
6	Not used (open)
7	GND
8	Not used (open)

USB - Micro A/B Memory stick



Micro USB A/B port for memory sticks only.
Not operational for keyboard or mouse.

S1 CAN bus end switch

This switch allows connecting the CAN bus termination when the CybTouch is the last element of the CAN network.

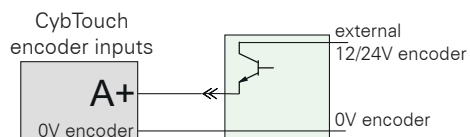
The bus termination (120 Ω) is activated when the switch is ON.

Encoder types

12 / 24 V Single Ended (Unipolar) Encoders

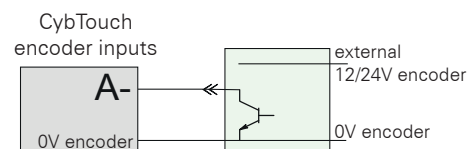
Encoder inputs support 12VDC and 24VDC signals. In this case encoder must be powered externally with its own power supply. 0V encoder must be common. Encoder inputs support encoders without inverted signals.

Emitter follower



Emitter follower encoder outputs must be connected to the A+ B+ inputs on the CybTouch. Any unused inputs must be left disconnected. 5V single ended encoders may take their 5V power supply from the CybTouch.

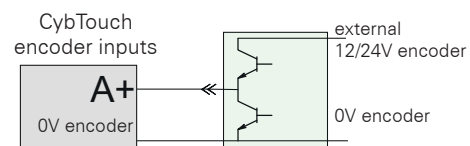
Open collector



i Open collector encoder outputs must be connected to the A – B – inputs on the CybTouch

Any unused inputs must be left disconnected. 5V single ended encoders may take their 5V power supply from the CybTouch.

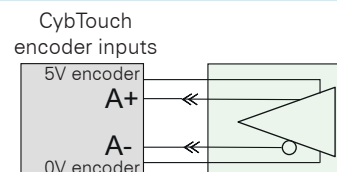
Push pull



Push-pull encoder outputs must be connected to the A+ B+ inputs on the CybTouch. Any unused inputs must be left disconnected. 5V single ended encoders may take their 5V power supply from the CybTouch.

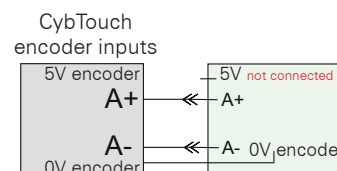
5 V Differential Encoders / Emulated Encoders

Differential



Differential encoders (TTL / 422 / 485) are usually 5V powered. All channels must be connected.

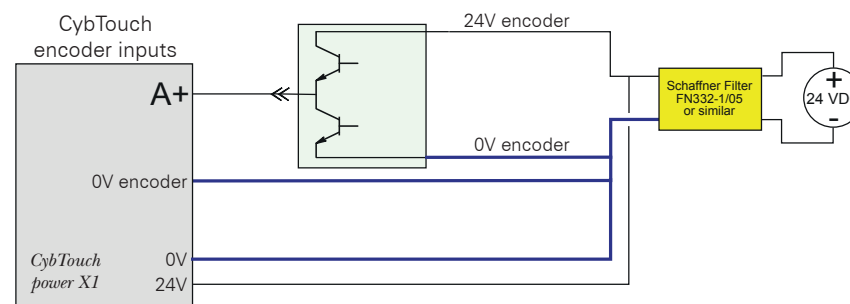
Emulated encoder on motor drives



The 5V of emulated encoders (servo-drives) output must NOT be connected to the 5V encoder of the CybTouch.

This may be dangerous for the drive or the CybTouch. But some drives are fully opto-coupled and 5V encoder must be provided like for a normal encoder. Please refer to the drive datasheet.

External Encoder



When wiring an external encoder, it is important that the power supplies be connected as explained here.

Default Configuration for Shears

10 Input configuration
Set default configuration

☐ clic here to inverse function

☐ 2:16 Pedal	☐ 3:16 ---
☐ 2:17 Automatic cut	☐ 3:17 ---
☐ 2:18 TDC max	☐ 3:18 ---
☐ 2:19 BDC min	☐ 3:19 ---
☐ 2:21 X index zone	☐ 3:21 ---
☐ 2:22 ---	☐ 3:22 ---
☐ 2:23 ---	☐ 3:23 ---
☐ 2:24 ---	☐ 3:24 ---

11 Output configuration
Set default configuration

☐ clic here to inverse function * can be defined twice

☐ 1:4 ---	☐ 3:8 ---
☐ 2:2 Enable X axis	☐ 3:9 Pump on
☐ 2:3 ---	☐ 4:3 ---
☐ 2:5 ---	☐ 4:4 ---
☐ 2:6 Blade down *	☐ 4:6 ---
☐ 2:8 Blade up *	☐ 4:7 ---
☐ 2:9 ---	☐ 4:17 ---
☐ 3:2 Blade gap + *	☐ 4:18 ---
☐ 3:3 Blade gap - *	☐ 4:20 ---
☐ 3:5 ---	☐ 4:21 ---
☐ 3:6 ---	

12 Analog I/O configuration
Set default configuration

Inputs	Outputs
2:26 Blade gap	2:11 10V ref.
3:26 ---	2:13 X1 axis
4:12 ---	3:11 ---
4:26 ---	3:13 ---
	6:13 ---
	6:27 ---

Encoders

5:3/17	X1 axis
5:8/22	---
5:13/27	---
6:10/24	---