

TSD80 / TSD130 Revision 6

This documentation focuses on the main changes from TSD80/130 Rev. 5-5F to Rev. 6 and addresses potential compatibility issues.

Firmware

The required minimum firmware version for the official TSD80/130 Rev. 6 is version **4.26.3**.

Software

TAM System Explorer version 7.29.0 or higher is recommended. No other special changes need to be noted.

Hardware

The main hardware changes are listed below.

» Motor Connector (X40 and X41)

Now split into two connector parts:

One side contains temperature and motor brake pins on a *B2CF 3.50/04/180 SN BK BX connector (Weidmüller no. 1277460000)*. The other side contains the phases (U,V,W) and ground of the specific axis on a *BLF 5.08HC/04/180 SN BK BX connector (Weidmüller no. 1013450000)*.

» Motor Connector Shield Plate

The motor connector shield plate is slightly different. There are now two dedicated screws to mount the plate to the servo drives housing.

» DC-Bus Connector (X1)

For TSD80/130 **Rev. 5C and higher**, the DC bus connector type is *BVF 7.62HP/03/180MF2 SN BK BX (Weidmüller no. 1060570000)*.

» USB Connector (X8)

Now USB type C

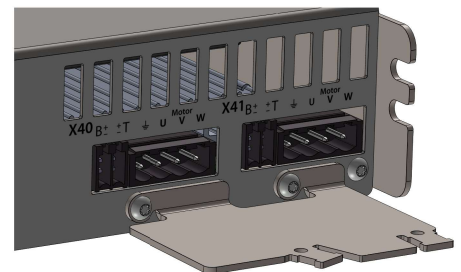


Figure 1: Motor connectors X40 and X41

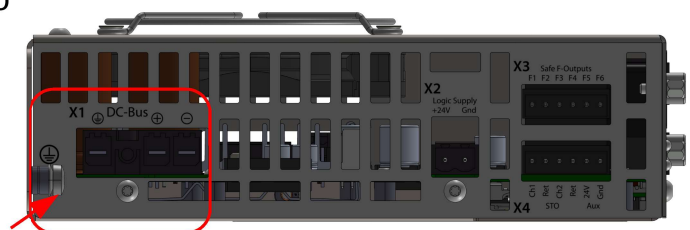


Figure 2: DC-bus connector (X1)

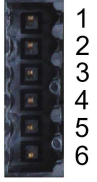
» **TTL Input Connection (Encoder Pins at X20/21 and X10/11)**

Revisions 5–5F have a weak 20kΩ pull-down, requiring external resistors provided by the user. This is not required for TSD80/130 Revision 6 as the internal pull-down is now 1.5kΩ.

Future firmware release will allow the user to choose between **internal** pull-up and pull-down resistors (1.5kΩ). The default is pull-down for FW version 4.25.0.

» **STO (X4) Pin Layout**

Pin 4 was previously unused. It is now the *STO Return Ch2*, see wiring below.

Pin Layout X4	Pin	Name	Description
	1	STO Input Ch1	STO channel 1 input
	2	STO Return Ch1	STO channel 1 GND
	3	STO Input Ch2	STO channel 2 input
	4	STO Return Ch2	STO channel 2 GND (previously unused)
	5	Aux 24 V	24V for STO, if STO is not used (connect to Pin 1 and 3 of X4)
	6	Aux Gnd	Ground for STO, if STO is not used (connect to Pin 2 and 4 of X4)

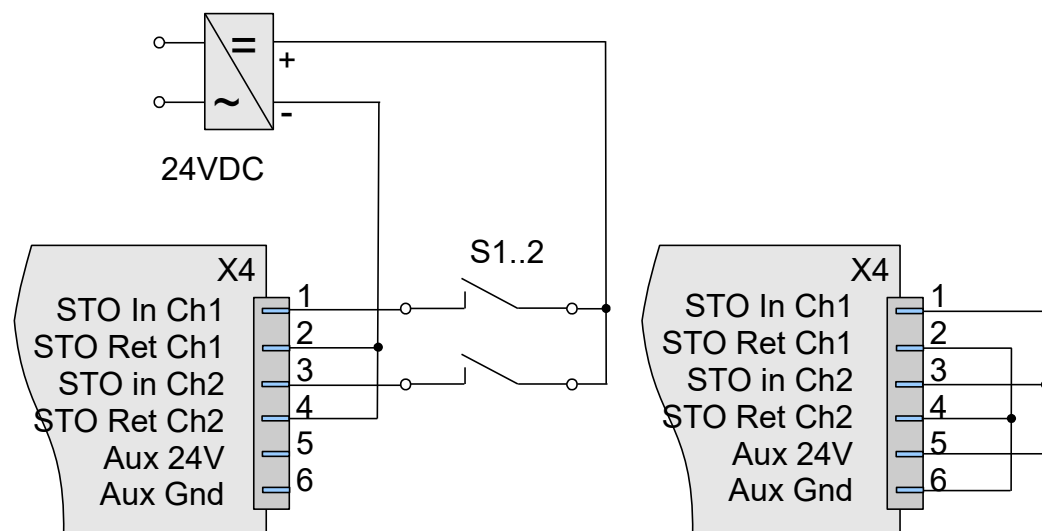
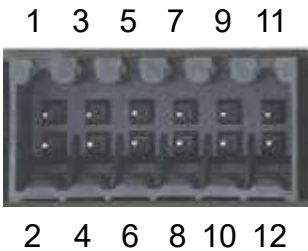


Figure 3: Wiring of the STO when used (left) and when not used (right)

» Digital Inputs/Outputs (X30/31)

The common ground of all outputs is internally connected to the logic supply. No inputs nor outputs are galvanic isolated from the logic supply.

Pins 4 and 6 changed; see pinout description in table below.

Pin Layout X30/X31	Pin	Name	Description
	1	P24V	20...28VDC supply input for digital outputs 1 and 2. Current max. 2.9A continuous.
	2	P24Vret	0V, ground for digital outputs and inputs.
	3	DO1	Digital Output 1 High Side Switch. Connect your load between this pin and pin 4, internally connected with X40.2/X41.2 pin 1 30VDC max, 1A continuous ¹ , 1.4A peak (1s)
	4	DO1ret	Digital Output 1 return, internally connected with X40.2/X41.2 pin 2
	5	DO2	Digital Output 2 High Side Switch. Connect your load between this pin and pin 6 — 30VDC max, 1A continuous ¹ , 1.4A peak (1s)
	6	DO2ret	Digital Output 2 return.

¹ Max. 2.9A continuous for all 4 outputs together