

Function (only active for T1 and T2)	External enabling 1	External enabling 2	Switch position
Safety stop 1 (drives switched off when axis at standstill)	Input open	Input open	No operational state
Safety stop 2 (safe operational stop, drives switched on)	Input open	Input closed	Not pressed
Safety stop 1 (drives switched off when axis at standstill)	Input closed	Input open	Panic position
Axes enabled (axis jogging possible)	Input closed	Input closed	Center position

6.2 External power supplies

6.2.1 X11 external power supply

Description The external power supply via X11 can be used, for example, for external power supply to a switch.

Necessary equipment

- X11, mating connector: Han 108DD with a male insert

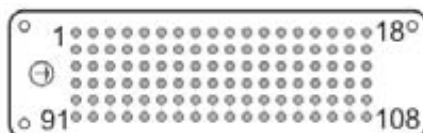


Fig. 6-7: Contact diagram

- Housing size: 24B
- Cable gland M32
- Cable diameter 14-21 mm
- Cable cross-section $\geq 1 \text{ mm}^2$

Connector pin allocation X11

Pin	Description
105	+24 V external
106	0 V external
107	+24 V internal
108	0 V internal

6.2.2 X55 external power supply

Description The following couplers can be supplied with power via connector X55:

- Switch
- VARAN slave
- EtherCAT bridge

Necessary equipment

- Male insert, HAN 8D



Fig. 6-8: Contact diagram, view from contact side

- Cable clamping range: Ø9 ... Ø13 mm
- Recommended wire cross-section: 1 mm²

Connector pin allocation X55

Pin	Description
5	+24 V external
6	0 V external
7	+24 V internal
8	0 V internal
-	PE

6.3 Load voltages

6.3.1 X11 load voltages US1 and US2

Description

In the case of interfaces with load voltage US1/US2, load voltage US1 is not switched and US2 is implemented as switchable using safe technology so that actuators, for example, are switched off when the drives are deactivated.

This function exists in the following three variants and is set in the safety configuration:

- Switched by an external PLC:
The contactor is switched directly by an external input (US2 signal in the PROFIsafe/CIP Safety/FSoE telegram). This variant is available only if PROFIsafe/CIP Safety/FSoE is in use.
- Switched by the KRC:
The contactor is switched if the "FF signal" and the non-safe "US2_CONTACTOR_ON" signal from the robot controller are set. In this way, the non-safe part of the robot controller can also switch the contactor.
- Deactivated:
The contactor is always off.

If, due to a fault in the system cabling, there is a cross connection between US1 and US2, this will not be noticed during normal operation. The result is that load voltage US2 is no longer switched off which can lead to a dangerous state in the system.



In the cabling for the voltages US1 and US2 in the system, suitable measures must be taken to prevent a cross-connection between the voltages (e.g. separate cabling of US1 and US2 or a cable with reinforced insulation between the two voltages).



The function of the load voltage contactors must be checked in accordance with (>>> 6.3.4 "Checking the US2 function, load voltage contactor" Page 46).