Maneuver box

Maneuver box

The Maneuver box is the operator interface of the X85 Pallet system.
All versions have a small physical size and is benificially placed close to the area of the operator.

The Maneuver box exists for two geographical areas, Europe and US.

Components of which the Maneuver box versions are based upon:

- Maneuver unit
- HMI (HMI = Human Machine Interface)

The fact that it is a box of its own, and not part of the Control box, facilitates placing the Maneuver box immediately at the operator while controls equipment with no direct connection to the area of process, is placed at any spare space.
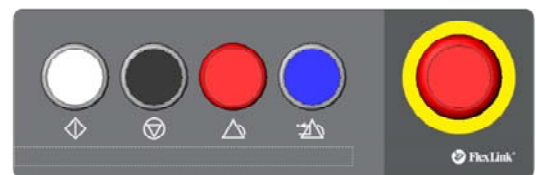
The system can be divided into several maneuver zones by equipping each zone with one Maneuver box each.

Maneuver box with Maneuver unit

Maneuver box with Maneuver unit and HMI

Maneuver unit

X85 Pallet

Maneuver box

Maneuver box assortment overview

The Maneuver box comes in different types and for different geographical areas.

Europe

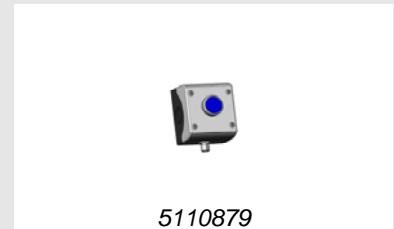|		
5105200	*5105206*	*5110879*
Maneuver unit	Maneuver unit + HMI	Reset

US

|		
5105200	*5105207*	*5110879*
Maneuver unit	Maneuver unit + HMI	Reset

Maneuver box

Maneuver unit

A maneuver unit consists of:
- Pushbutton Start, white lamp, NO-contact
- Pushbutton Stop, NC-contact
- Lamp Alarm, red lamp
- Pushbutton Reset, blue lamp, NO-contact
- Emergency switch, 2xNC-contacts

One Maneuver unit can be directly connected to the Control box. Additional Maneuver units are connected to fieldbus interfaces.
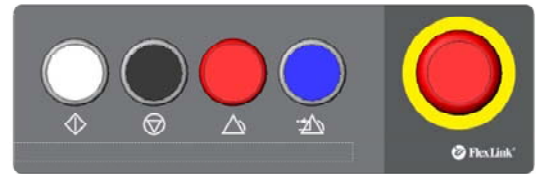
Maneuver unit

Maneuver unit connections

Pushbuttons

Connector: M12, 5-pin, male, A-code

Connector X360-1 connections:
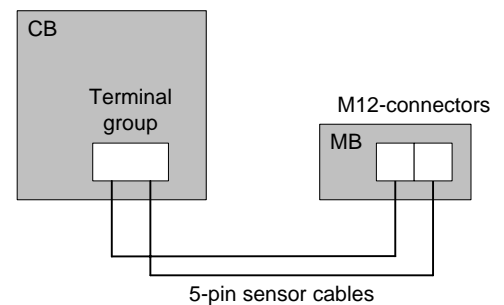- 1: +24 V_{DC}
- 2: Start
- 3: Stop
- 4: Reset
- 5: PE

M12 chassis connectors for pushbuttons and lamps

Lamps

Connector: M12, 5-pin, male, A-code

Connector X360-2 connections:
- 1: 0 V_{DC}
- 2: Start lamp
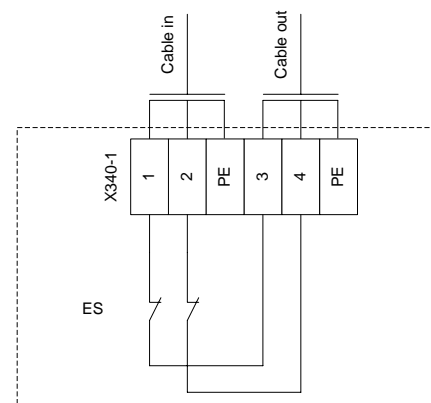- 3: Alarm lamp
- 4: Reset lamp
- 5: PE

Emergency switch

Rated cable area connection: 2.5 mm^2 (AWG 14)

Terminal group X340-1 connections:
- 1: Safety loop 1, in
- 2: Safety loop 2, in
- PE
- 3: Safety loop 1, out
- 4: Safety loop 2, out
- PE

Connecting a Maneuver unit to the Control box

Safety loop

Maneuver box

Human Machine Interface

Features:

- Screen: ca 6" size, colour, touch sensitive
- Communication interface

HMI Europe

Manufacturer	Siemens
Modell	TP177B
Communication	Profibus/MPI/Ethernet

HMI US

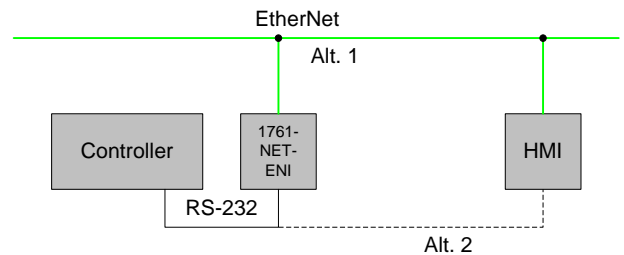|	
Manufacturer	Rockwell
Model	Panelview Plus 600 Color (2711P-T6C20D)
Communication	Ethernet, RS-232 + Modular communication interface.
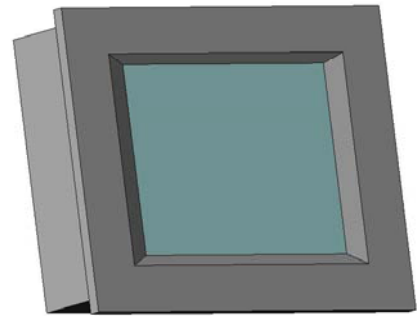
The method of communication between controller and HMI differs for controller of performance level 0 and performance level 1.

Performance level 0

The HMI can not communicate with MicroLogix 1500 through DeviceNet, even if both are equipped with DeviceNet modules. (Reference to Rockwell documentation.)

For communication, use either RS-232 (limited range) or equip controller with Ethernet module 1761-NET-ENI.
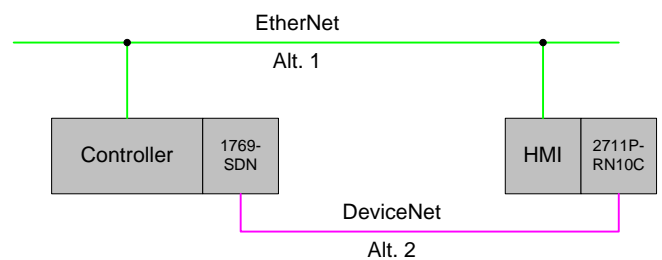
Performance level 1

It is possible to communicate through RS-232 (limited range), Ethernet or DeviceNet.

For Ethernet, the controller should be equipped with Ethernet interface.
For DeviceNet, the controller should be equipped with DeviceNet module 1769-SDN and HMI be equipped with DeviceNet module 2711P-RN10C.

HMI

Communication between Controller PL0 and HMI

Communication between Controller PL1 and HMI