

EUROMAP 16

**Injection Moulding Machines
Electrical Connection of Peripheral Equipment
with Analog or Digital Interface**

Version 1.4, May 2015
9 pages

This recommendation was prepared by the Technical Commission of EUROMAP.

History

Date	Version	Changes
October 2006	1.1	A further supplier added
July 2007	1.2	Supplier's data amended
November 2009	1.3	A further supplier added
May 2015	1.5	List of plug suppliers removed. Please visit www.euromap.org/technical-issues/technical-recommendations for the current list.

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1 Scope and application

This EUROMAP recommendation defines the connection between the injection moulding machine and peripheral equipment.

For each peripheral equipment a separate connection shall be used.

Note: An emergency stop circuit is not included in this specification.

2 Description

For analog signals a connection according to 3.1, for binary signals a connection according to 3.2 shall be used.

3 Plug and socket outlet

The connection between the injection moulding machine and the peripheral equipment is achieved by the plugs specified below ¹⁾. The same type of plug is fitted to the injection moulding machine and the peripheral equipment.

Arrangement of pins and sockets viewed from the mating side (opposite the wiring side).

¹⁾ See www.euromap.org/technical-issues/technical-recommendations for suppliers

3.1 Analog Signals (Version A)

Gold plated contacts shall be used.

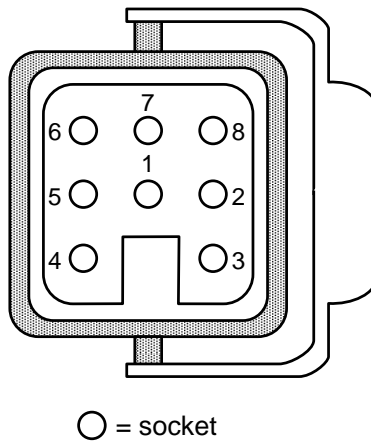


Figure 1: Plug on the injection moulding machine and on the peripheral equipment

Table 1: Plug contact assignment

Plug contact No	Description
1, 2	Set point (from injection moulding machine to peripheral equipment); 0 to +10 V; reference on plug contact No 2; impedance max. 1 kΩ
3, 4 optional	Actual value (from peripheral equipment to injection moulding machine); 0 to +10 V; reference on plug contact No 4; impedance max. 1 kΩ
5, 6 optional	Thermocouples (IEC 584 part 1, type Fe – CuNi <J>); positive pole on plug contact No 5
7, 8 optional	Manufacturer dependent; positive pole on plug contact No 7; shield preferably on plug contact No 8

3.2 Binary Signals (Version B)

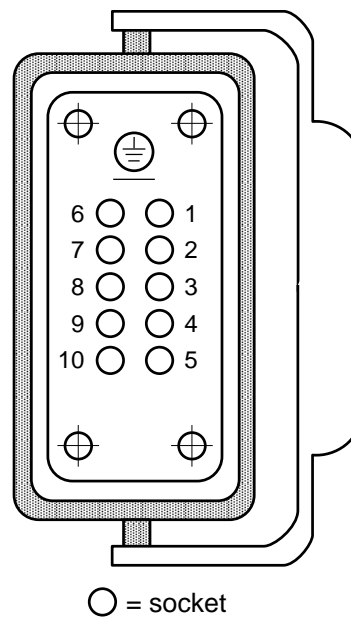


Figure 2: Plug on the injection moulding machine and on the peripheral equipment

Table 2: Plug contact assignment

Plug contact No	Description
1	Selection and reference voltage from injection moulding machine; max. 40 V, max 1 A, DC
2	Online of peripheral equipment (input of injection moulding machine)
3, 4	Coding of status, see table 3 (input of injection moulding machine)
5 optional	Manufacturer dependent (input of injection moulding machine)
6	Remote switch on (output of injection moulding machine)
7	Stand by (output of injection moulding machine)
8 optional	Manufacturer dependent (output of injection moulding machine)
9 optional	Manufacturer dependent (output of injection moulding machine)
10	Reference voltage from peripheral equipment; max. 40 V, max 1 A, DC

Table 3: Coding of status

Plug contact No		Description
3	4	
Coding		
0	0	Alarm
0	1	Warning
1	0	Start-up
1	1	Ready for production

0: High impedance
 1: Reference voltage

Digital inputs to the injection moulding machine (plug contacts 2 to 5) must be in high impedance when the peripheral equipment is not selected. This allows to use a bus structure to multiplex the input signals of the injection moulding machine (see figure 3).

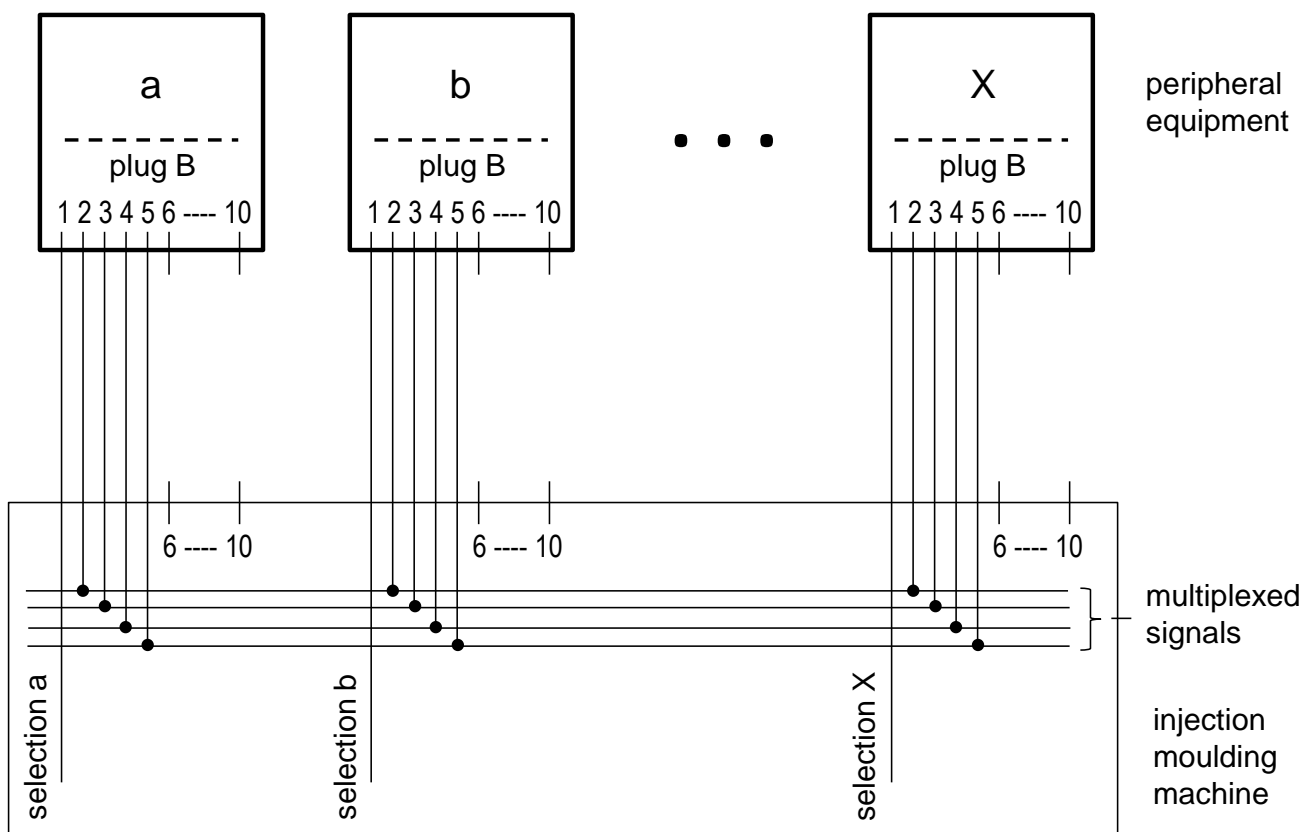
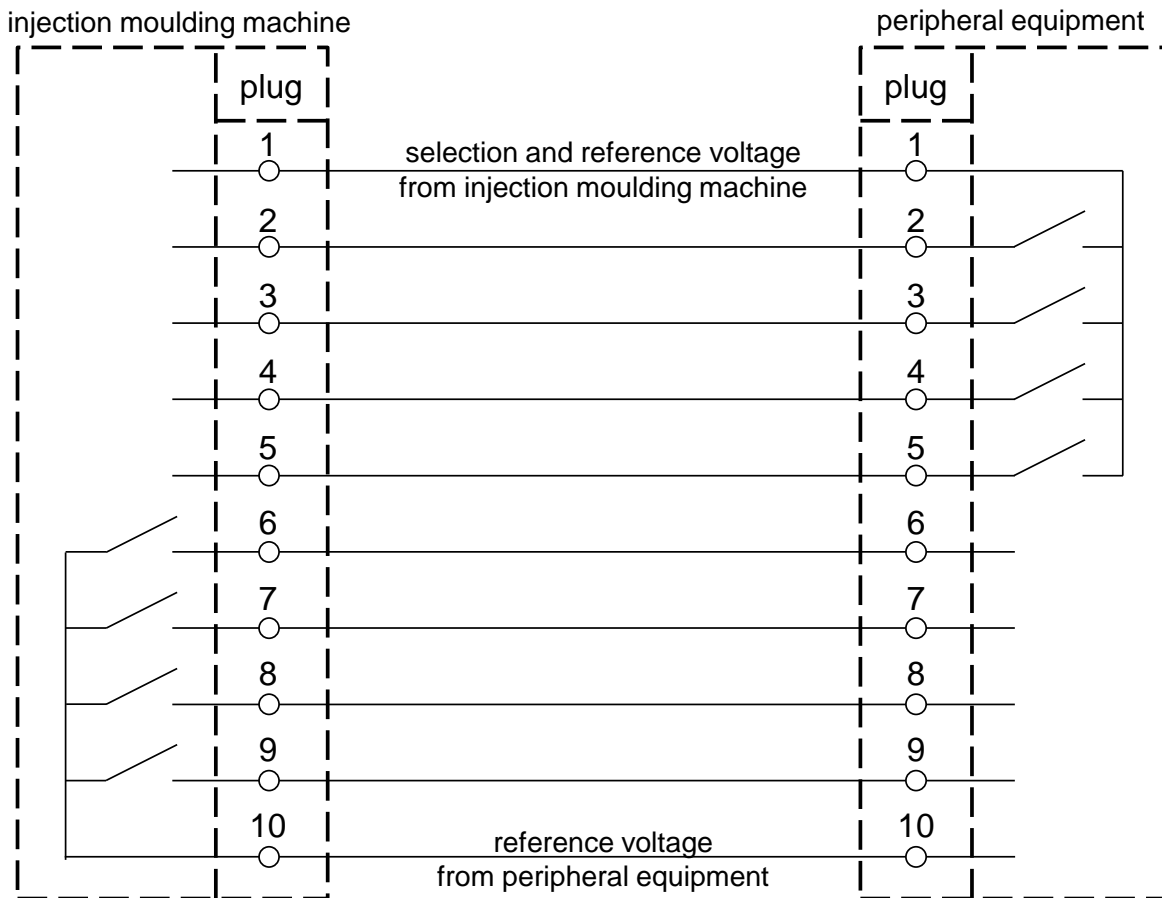


Figure 3: Example of a bus structure of input signals

For better understanding an example of the interconnection between the injection moulding machine and a peripheral equipment is shown in figure 4.



Plug contact No 1 – 5: isolated in peripheral equipment
 Plug contact No 6 – 10: isolated in injection moulding machine
 Insulation voltage: 2500 V (IEC 435)

Figure 4: Example the interconnection between injection moulding machine and peripheral equipment

4 Designation

The type of interface should be specified to designate the connection between the injection moulding machine and the peripheral equipment.

Example for the designation of such a connector
 for analog signals: EUROMAP 16 – A
 for binary signals: EUROMAP 16 – B

5 Sources of supply

A list of plug suppliers is available for download on the EUROMAP website:
www.euromap.org/technical-issues/technical-recommendations

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