

MPX16

General

The signal multiplexer MPX16 switches one of its 16 input voltage signals to its signal output. The signal selection is done via an I²C-bus-connection. Frequency signals can be multiplexed by using an optional available *frequency signal output cable* (instead of the *straight signal output cable*) which is connected to the OUT-port of the MPX16.

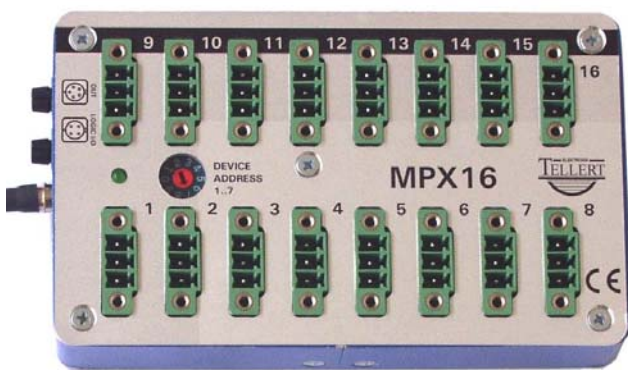


Figure 1: Signal Multiplexer MPX16.

Connection to DL16CAN

The MPX16 requires two connections with a DL16CAN. First, the control cable of the MPX16 must be connected to the DL16CAN-Logic I/O connector. And second, the OUT-plug of the MPX16 must be connected to one of the DL16CAN voltage signal inputs. This is done either with the *straight signal output cable*, or with an optional available *frequency output cable*.

Note that the *frequency signal output cable* has a built-in frequency voltage converter which is labelled with its frequency working range. The value of that frequency working range corresponds to 5.12 V.

LED

The LED indicates that the MPX16 is properly powered via the control cable.

Input Signal Socket

Each of the 16 input sockets is manufactured by *Phoenix Contact*. Compatible plugs have the type number *MC 1,5/ 3-STF-3,81* (screw connection) or *MCC 1/ 3-STZF-3,81* (crimp connection; in combination with socket contacts *MCC-MT 0,2-0,35* or *MCC-MT 0,5-1,0*). The pins are assigned as follows (pin numbering starts from top to down):

Pin Assignment

Pin	Assignment
1	Reference/Supplying Voltage. The voltage depends on the type of the signal output cable: Straight Signal Output Cable: +5.12 V DC reference voltage from data logger (max. 20 mA for all 16 voltage input signals and further DL16CAN voltage input signals). Frequency Signal Output Cable: +5 V DC (taken from pin 4 of the OUT connector; max. 50 mA for all 16 frequency input signals)
2	Ground
3	Input signal within 0...5 V (higher voltages yield crosstalk)

Pin Assignment

The plugs of the MPX16 are manufactured by Binder and are part of Binder Series 719.

CONTROL CABLE: The control cable has the same pin assignment as the corresponding *DL16CAN-Logic I/O* socket:

Pin Assignment

Pin	Assignment
1	Supplying voltage (about 12 V DC)
2	Ground
3	SDA (serial data line)
4	SCL (serial clock line)

LOGIC I/O: This socket provides a connection to the I²C-bus for further devices. Its pins are identical to those of the control cable.

Pin Assignment

Pin	Assignment
1	Supplying voltage
2	Ground
3	SDA (serial data line)
4	SCL (serial clock line)

OUT: This socket provides access to the output signal.

Pin Assignment

Pin	Assignment
1	Supplying Voltage (= Pin 1 of <i>LOGIC I/O</i>)
2	Pin 2 of input signal socket (common ground)
3	Pin 3 of input signal socket (multiplexed voltage signal within 0...5 V)
4	5 V DC $\pm 5\%$ (stabilized)
5	Pin 1 of input signal socket

Note that the voltage of pin 4 comes from a voltage controller which is powered by the supplying voltage.