# Input extension

The **TDI5-DL** (**T**emperature and **D**igital **I**nput) translates up to five signals for the data link (DL bus), which can be either a digital signal (On/Off) or the measurement from a PT1000 sensor. **Digital signals must be potential-free.**

Please note: Due to the inertia of the DL bus, this module is **not** suitable for time-critical applications (e.g. digital inputs as pushbuttons).

Electrical connection

Example: connection to a UVR16x2 controller
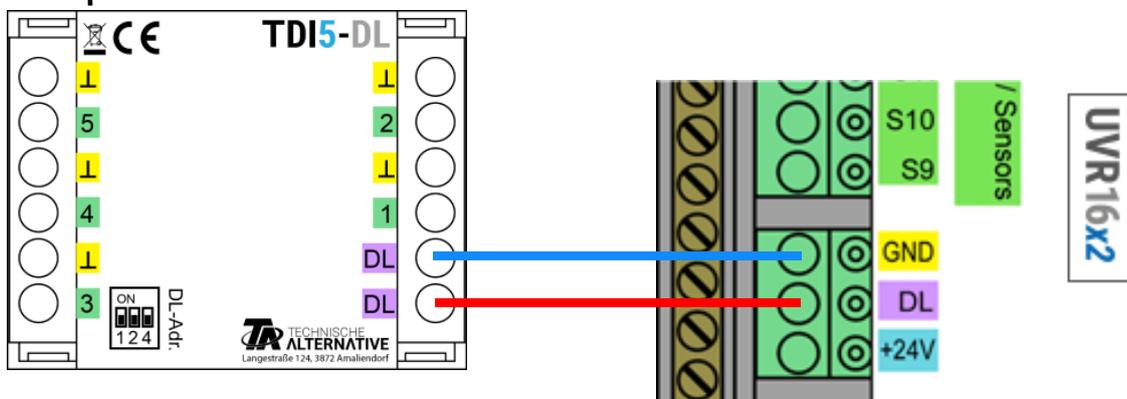
The principles of DL bus cabling are described extensively in the installation instructions for the freely programmable controllers. The polarity of the data link is interchangeable.
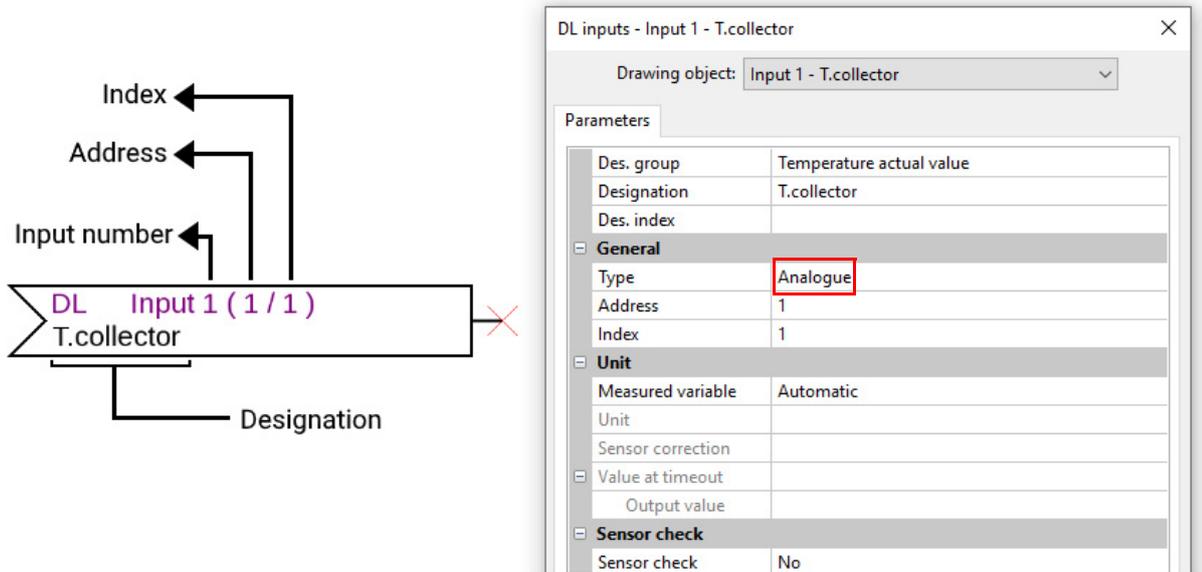
Index

The TDI5-DL forwards values to the data link via 11 indices. These correspond to the input statuses.

Index	Unit	Source/value	
1-5	On/Off	External digital signal	Inputs 1-5
6-10	Temperature °C	PT1000 sensor	Inputs 1-5
11-12		Not used	
13	Dimensionless	Dimensionless number from 0-31, which issues all input statuses in binary. See chapter "Binary decoder".	
14	Dimensionless	Serial number of the module	
15	Dimensionless	Software version (without decimal points)	

Programming in TAPPS2

In the following example, the default DL bus address of 1 is used.

The most important settings can be found under **General.** If a digital (On/Off) input is to be read out (index 1-5), the type must be set to **Digital**; otherwise, it must be **Analogue**. In addition, specify the DL bus address set on the TDI5-DL (default 1), as well as the index of the required input.

If the **Measured variable** is set to **Automatic**, no further settings are required under **Unit**.

The table found under **Index** (page 2) provides information about which index belongs to which input status.

Binary decoder (only x2 devices)

To evaluate the states of the 5 digital inputs using a single index, a range function is required in binary decoder mode.
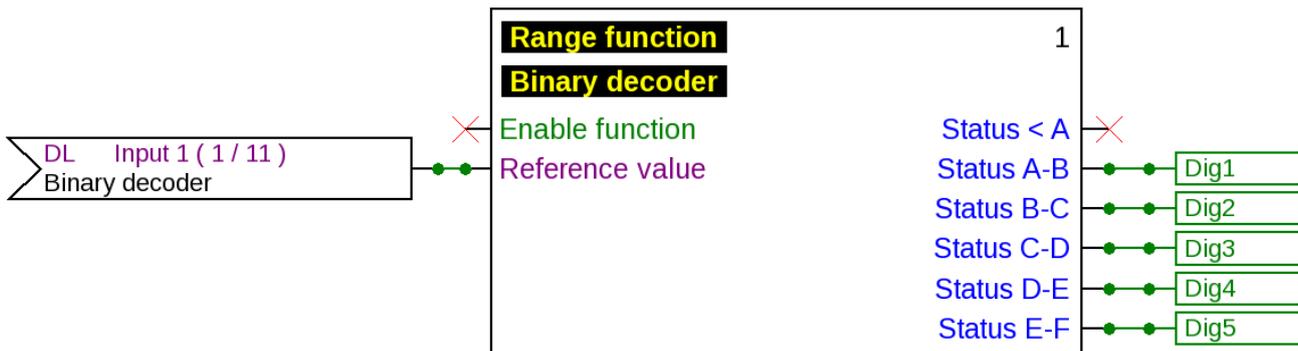
The DL input with **Index 13** outputs a number between 0 and 31, which is decoded by the binary decoder to produce a binary number with the input statuses. That DL input must therefore be linked to the input variable **Reference value** (as shown in the graphic).

The settings for the thresholds must be made in accordance with the graphic below.
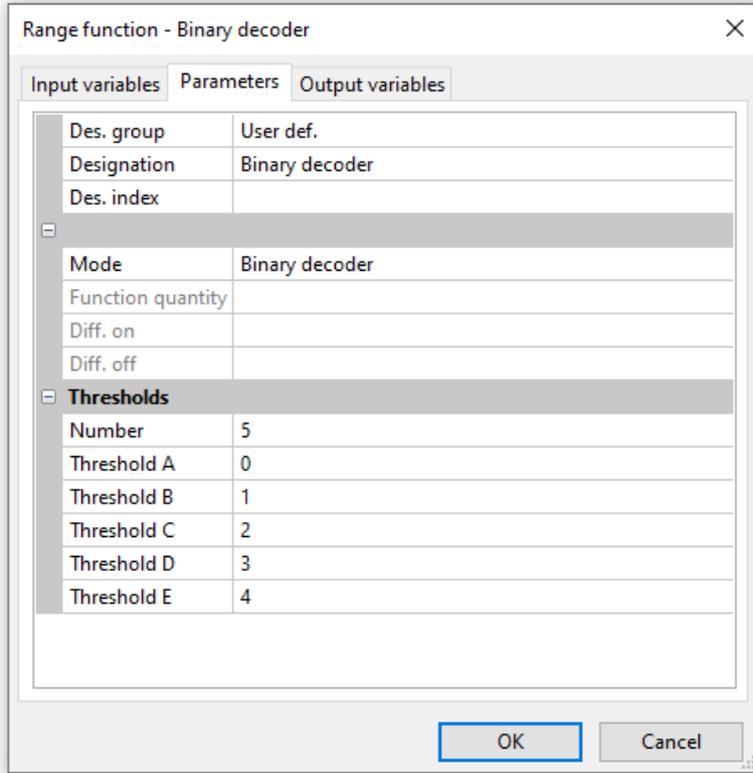
5 thresholds, defined in sequence from 0 to 4, correctly transfer the decoded value.

The binary decoder uses output variable **Status A-B** to issue the status of input 1; output variable **Status B-C** to issue the status of input 2, etc. The user is responsible for the further use of these variables.

DL address

The DI5-DL has a default address of 1. This address can be changed using the DIP switches in the device. The final address is made up of the default 1 and the sum of the DIP switches that are set to "ON".
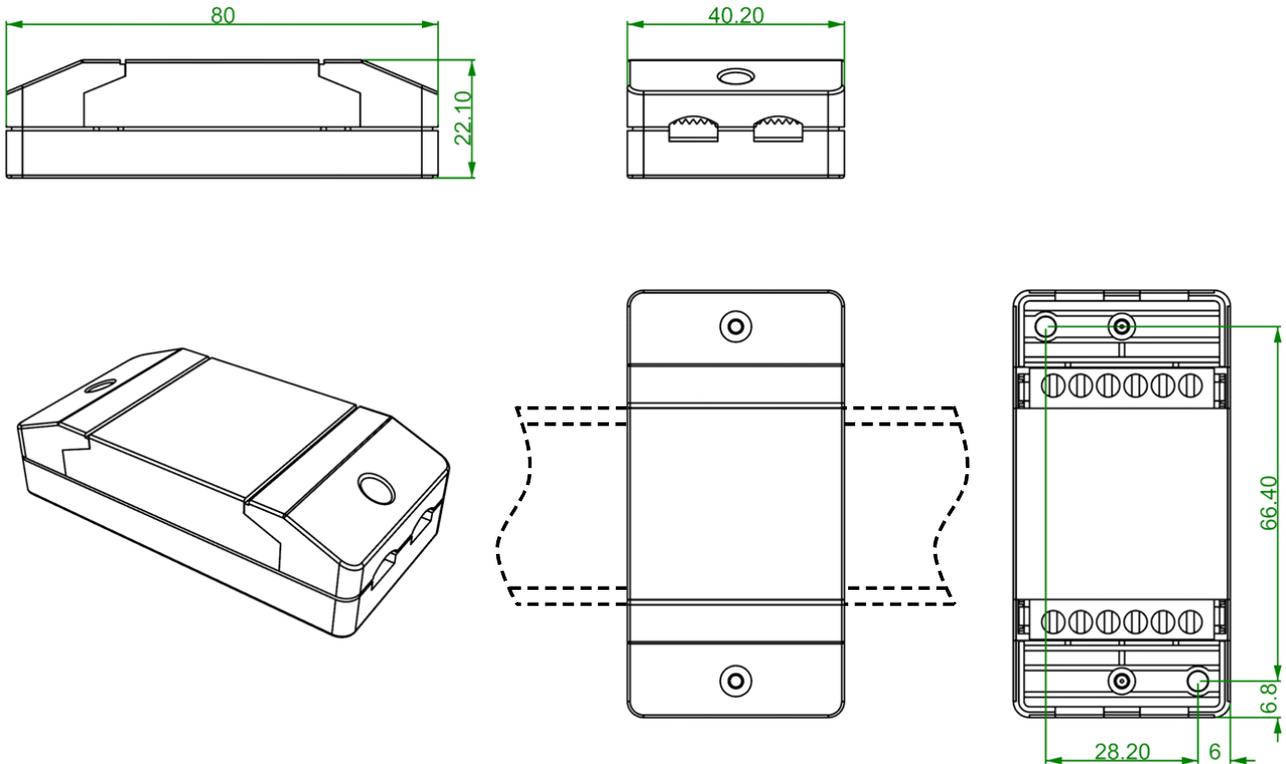
Example

Required address	6
Default setting	1
DIP switches **1** and **4**	+ 5
Sum = address	= 6
DIP switches **1** and **4** must be set to **ON**.	

Position of DIP switches as per the example.

Dimensions in mm

80

40.20

22.10

66.40

6.8

28.20

6

Top-hat rail installation
(support rail TS35 to
standard EN 50022)

Technical data	
DL bus load	30 %
IP rating	IP 40
Terminal area	max. 1.5 mm^2
Max. ambient temperature	45 °C