

Use of Binary Input Option for External Switches of SRD991 and SRD960

General

The binary inputs for external switches are powered by the device with a small pulsed current of approx. 150 µA with a pulse length of 0.3 ms and a period of 20 ms. The binary inputs are not isolated to the input loop (11, 12). A current flow gives the information "closed". No current flow gives the information "opened".

The capacitance for each binary input may not exceed 6 nF (between 13 and 14 for EB1 or 15 and 16 for EB2). This includes the capacitance between the signals and EARTH. The limit for the inductance in series is 100 mH (Limits for I.S. see data sheets).

Cables should not exceed 5 meters of length due to requirements for capacitance and due to electro magnetic immunity. It is strictly recommended to use shielded cables with twisted pairs to fulfill EMC standard requirements.

The binary input can be connected to any kind of switch (e.g. relay), if the following technical data are considered.

Short Technical Overview:

Cable	less than 5 m, shielded twisted pairs, shield connected to the housing of the device
Power	no external power
Isolation to other device terminals (11, 12)	no isolation
Identification switch "opened"	Resistance > 9 kΩ (C _i = 0 to 6 nF)
Identification switch "closed"	Resistance < 2 kΩ (C _i = 0 to 6 nF)
Typical hysteresis approx.	2 kΩ to 5 kΩ (C _i = 0 to 6 nF)
Allowable capacitance parallel to the inputs EB1+/- or EB2+/-	less than 6 nF
Allowable inductance in series to the inputs EB1+/- or EB2+/-	less than 100 mH

The functionality

The two inputs EB1 and EB2 are software configurable to perform the following functions:

EB2	EB1	Action
On	On	Normal Setpoint Controlling
On	Off	Go immediately to 0%
Off	On	Go immediately to 100%
Off	Off	Hold actual value

Additionally, the signals of the EB1 and EB2 can be used as a diagnostic information, which can be transferred via communication to a DCS-system.

