SVERKER 900

Relay and Substation Test System

Application Note

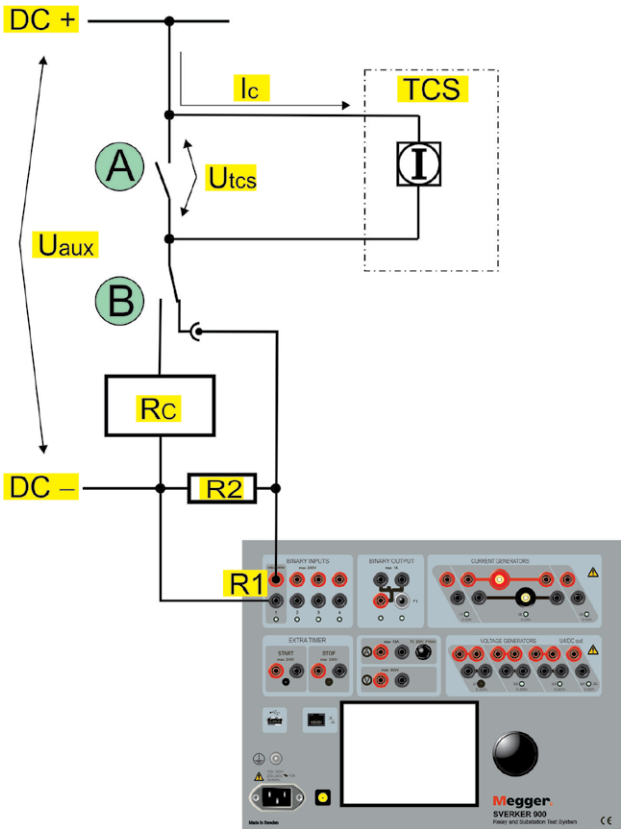
Check trip on relay with ABB supervision relay

Problem	The Binary input (BI1-BI4) will be activated even if the trip circuit is not closed.
Cause	Because of the high resistance (R1=500 kohm) on SVERKER 900 inputs BI1-BI4 there will be very low voltage over Utcs
Solution	When ABB supervision relay type SPER 1B1 C4, SPER 1C1 and SPER1C2 are used for TCS (trip circuit supervision relay) an extra resistance R2 has to be added during testing to lower the voltage over BI1.

Following values for R2 are selected depending on type and voltage.
R2 values are calculated from formulas: Uaux-Utcs = Ic x Rtot R2 = Rtot x R1/R1-Rtot

Aux. voltage	110 V DC	220 V DC	24 V DC	48 V DC
SPER 1B1 C4 / SPER 1C1	44 kΩ	146 kΩ		
SPER 1C2			800 Ω	5.6 kΩ

Technical data		SPER 1B1 C4 / SPER 1C1	SPER 1C2
Voltage of the circuit monitored	Uaux	40-265 V DC	20-60 V DC
Measuring current	Ic	1.5 mA	5 mA
Min. voltage over the trip circuit supervision unit	Utcs	40 V DC	20 V DC



Legend	
TCS	Trip circuit supervision
A	Trip contact
B	In service/Test switch
R1	500 kΩ (BI1)
R2	Extra resistance (only used during testing)
Rc	Resistance of the coil controlled

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