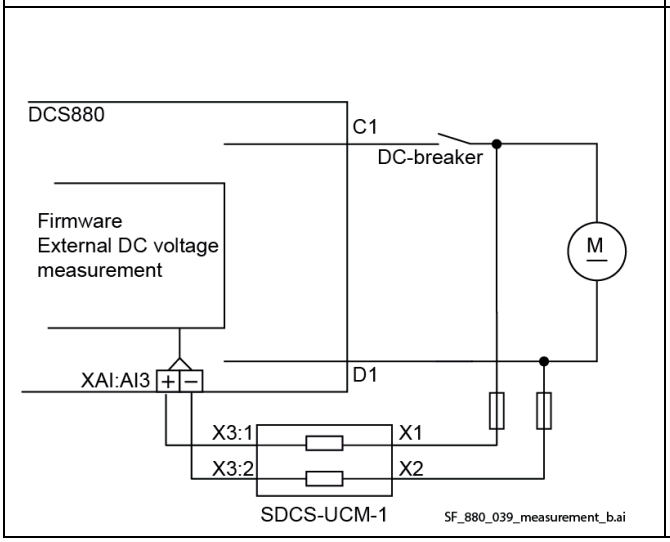
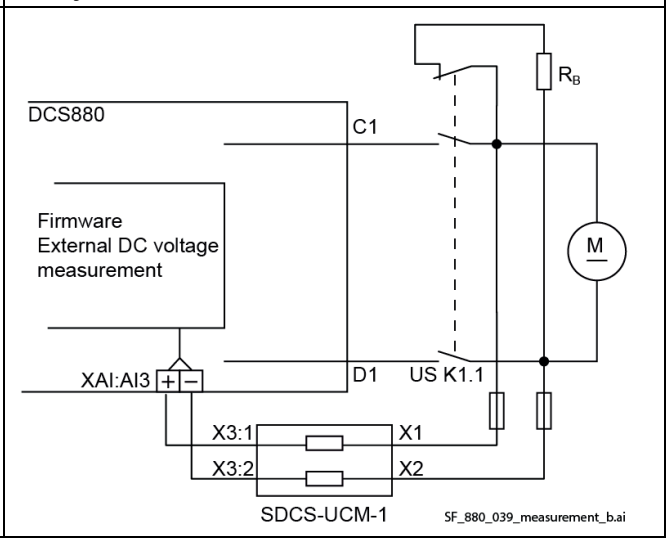
Introduction to this manual

External DC voltage measurement H1 ... H5

In the DCS880 units sizes H1 ... H5 the DC voltage measurement is integrated on the SDCS-PIN-H01. It is not possible to split the DC voltage measurement and measure the DC voltage externally direct at the motor. This is causing problems when using a DC-breaker or US style DC-contactor, because an exact DC voltage measurement in case of an open DC-breaker or US style DC-contactor is not possible.
With the help of the DC measurement-set SDCS-UCM-1 for H1 ... H5 (3ADT220184R0001) it is possible to achieve this task.
The picture below shows the connection between DCS880, SDCS-UCM-1 and the motor.

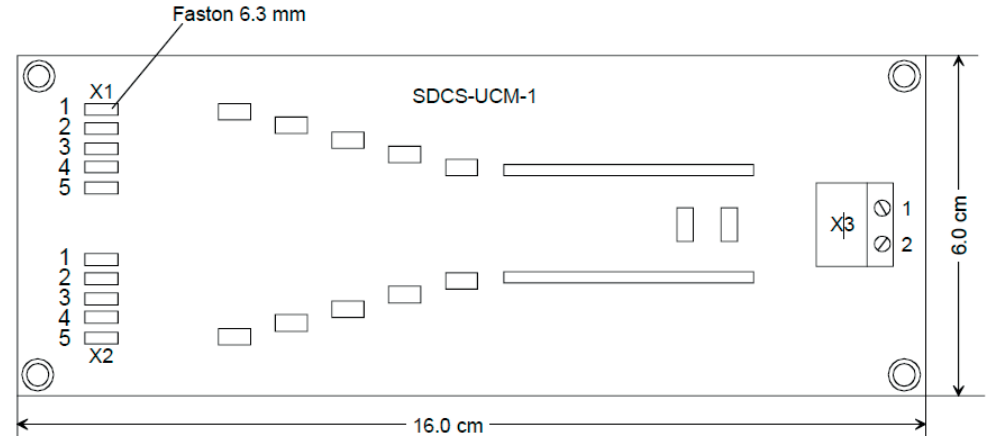
DC-breaker	US style DC-contactor
	

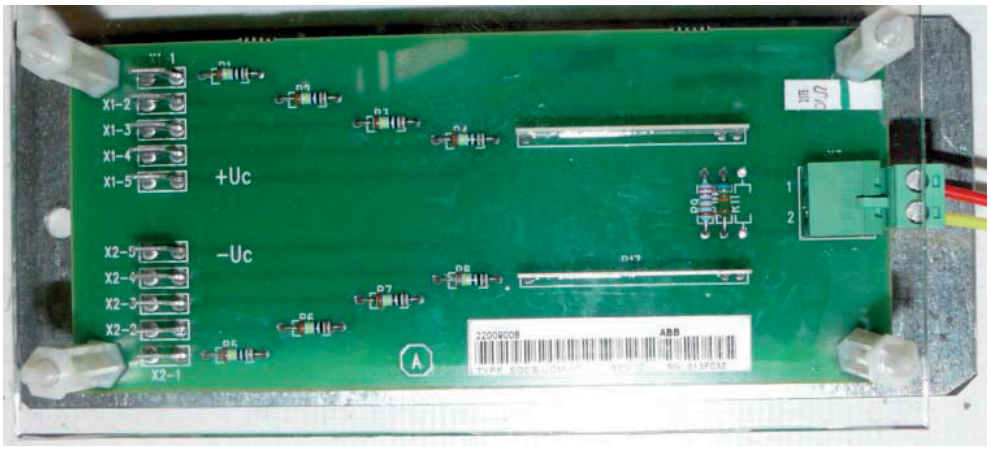
The external DC voltage measurement is needed in case all of the following 3 conditions apply:
- A DC-breaker or US style DC-contactor is used.
- The EMF is used as speed feedback. Thus, 90.41 M1 feedback selection = EMF or EMF voltage.
- Dynamic braking is used and the use of 20.44 Dynamic braking delay is not sufficient.

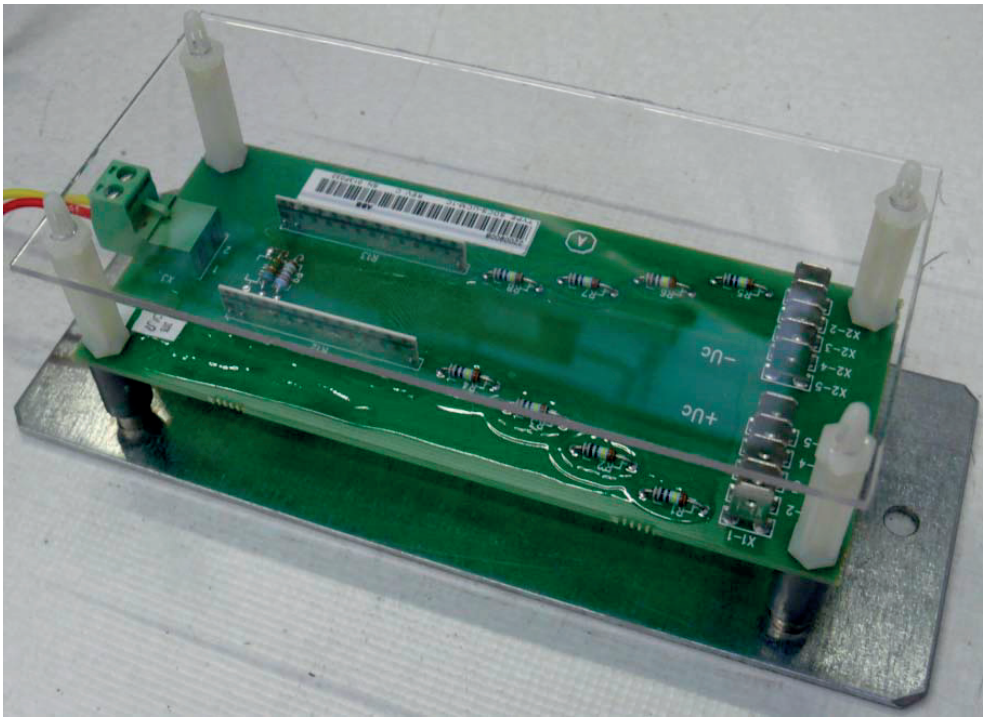
Hardware

Connection of the Resistor Board SDCS-UCM-1 and the DCS880

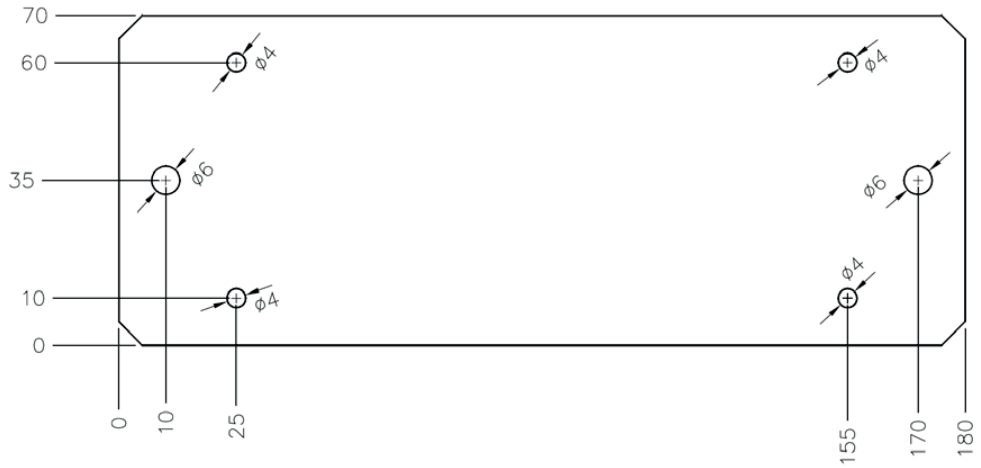
The SDCS-UCM-1







The holder for the SDCS-UCM-1

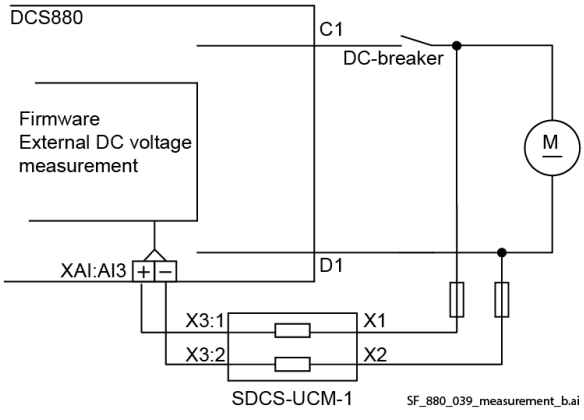
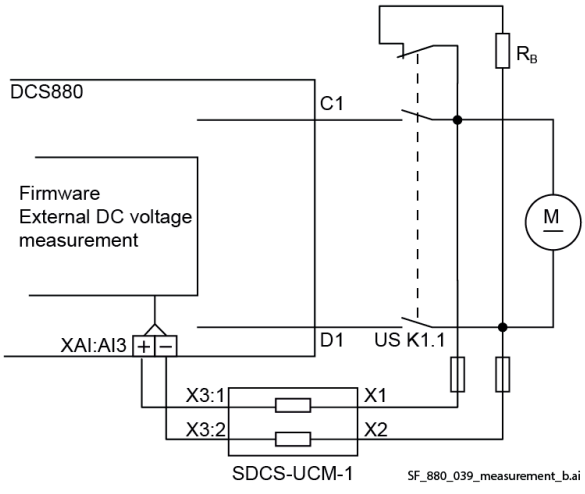


The connection

WARNING
The terminals X1 and X2 are at the DC voltage potential of the connected motor.

The SDCS-UCM-1 is to be mounted outside of the DCS880 module.
The board contains two resistor chains which are connected to the DC voltage (armature circuit) of the motor. The voltage reduced by the resistor chain (see X3) is connected to AI3 (XAI:AI3) of the DCS880.
The DC voltage is wired to connectors X1 and X2. The positive DC voltage (C1) is connected to connector X1 and the negative DC voltage (D1) to connector X2.
The connection of X1 and X2 is done according to the nominal motor voltage.

Nominal motor voltage	X1:	X2:
≤ 400 V_{DC}	4	4
≤ 500 V_{DC}	4	4
≤ 600 V_{DC}	3	3

DC-breaker	US style DC-contactor
	

Attention: The internal voltage measurement is still connected and can be used in the firmware.