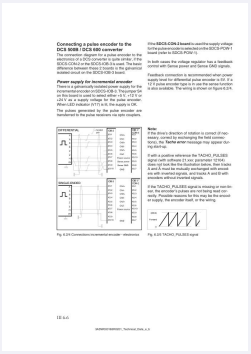
FIELD INSTALLATION QUICK GUIDE

Installation Instructions

SDCS-COM-5 3BSE006567R1

Drive Communication Board



PRODUCT	SDCS-COM-5 3BSE006567R1
DOCUMENT TYPE	Installation Instructions
PRODUCT FUNCTION	Drive Communication Board
OFFICIAL SOURCE	ABB DCS Technical Data 3ADW000165R0201

Use this guide with the complete manufacturer documentation and the controlled site procedure. Isolate all energy sources, preserve the exact model identity and verify every connection before energising.

01 PRE-INSTALLATION VERIFICATION

- Confirm the complete SDCS-COM-5 3BSE006567R1 identification and the documented drive communication board configuration.
- Record the installed position, connector orientation, cable routing, grounding and adjacent equipment before removal.
- Isolate electrical, pneumatic and stored energy sources using the approved site procedure.
- Use the official drawing and terminal information shown on the following page; do not infer connections from appearance.
- Inspect the replacement unit, mating hardware and environmental conditions before installation.

02 DRIVE BOARD LOCATION AND CONNECTIONS

Official manufacturer installation material reproduced from ABB DCS Technical Data 3ADW000165R0201. The drawings retain their original aspect ratio and technical meaning.

Connecting a pulse encoder to the DCS 500B / DCS 600 converter

The connection diagram for a pulse encoder to the electronics of a DCS converter is quite similar, if the SDCS-CON-2 or the SDCS-IOB-3 is used. The basic difference between these 2 boards is the galvanical isolated circuit on the SDCS-IOB-3 board.

Power supply for incremental encoder

There is a galvanically isolated power supply for the incremental encoder on SDCS-IOB-3. The jumper S4 on this board is used to select either +5 V, +12 V or +24 V as a supply voltage for the pulse encoder. When LED indicator (V17) is lit, the supply is OK.

The pulses generated by the pulse encoder are transferred to the pulse receivers via opto couplers.

If the **SDCS-CON-2 board** is used the supply voltage for the pulse encoder is selected on the SDCS-POW-1 board (refer to SDCS-POW-1).

In both cases the voltage regulator has a feedback control with Sense power and Sense GND signals.

Feedback connection is recommended when power supply level for differential pulse encoder is 5V. If a 12 V pulse encoder type is in use the sense function is also available. The wiring is shown on figure 6.2/4.

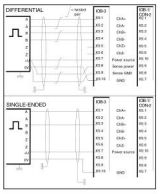


Fig. 6.2/4 Connections incremental encoder - electronics

Note:
If the drive's direction of rotation is correct (if necessary, correct by exchanging the field connections), the ***Tacho error*** message may appear during start-up.

If with a positive reference the TACHO_PULSES signal (with software 21.xxx: parameter 12104) does not look like the illustration below, then tracks A and Ā must be mutually exchanged with encoders with inverted signals, and tracks A and B with encoders without inverted signals.

If the TACHO_PULSES signal is missing or non-linear, the encoder's pulses are not being read correctly. Possible reasons for this may be the encoder supply, the encoder itself, or the wiring.

Fig. 6.2/5 TACHO_PULSES signal

III 6-6

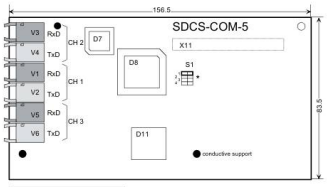
3ADW000165R0201_Technical_Data_e_b

7 Communication boards

7.1 Communication board SDCS-COM-5

This board is used for communications to DCS 500B converter modules equipped with software 21.xxx for commissioning and maintenance purposes. It consists of 3 different communication channels. All RxD channels (receiver) have blue color, all TxD channels (transmitter) have grey color. If any connections should be made always connect the same color with each other (plug and socket).
Channel 1 is a HDLC channel of 1.5 Mbits/s and is used for the communication with a PC. Channel 2 cannot be used together with software version S21.xxx.
Channel 3 is a DDCS channel of up to 4 Mbits/s and is used if a serial link based on PROFIBUS hardware, CS31 hardware or MODBUS hardware should be realized. If one of these possibilities should be used an adaptation module is needed. This channel can only be used with software version S21.1xx (SDCS_COM-1). Please refer to the documentation which is available for the link system needed.

Fig. 7.1/1 Connection between SDCS-COM-x and a partner



Jumper coding

Converter number	Coding for channel 2
1	S1 1 2 3 4 *
2	S1 1 2 3 4
3	S1 1 2 3 4
4	S1 1 2 3 4

* default value

Fig. 7.1/2 Layout and jumper settings of the SDCS-COM-5 board

III 7-1

3ADW000165R0201_Technical_Data_e_b

03 INSTALLATION AND CONNECTION CHECKS

- Install the unit only in the documented mounting position with the specified companion hardware.
- Match every keyed connector, terminal, conductor, shield and protective-earth point to the official drawing.
- Maintain the documented separation, bend radius, torque, cooling clearance and environmental limits that apply to the product.
- Before energising, perform continuity, polarity, insulation and mechanical-retention checks appropriate to the circuit.
- Do not bypass interlocks, diagnostics, protective devices or approved safety functions during commissioning.

04 INITIAL COMMISSIONING CHECKS

- Restore power or process connections in the approved sequence and observe startup diagnostics.
- Verify communications, channel status, sensor response, drive state or controller operation as applicable.
- Test the affected function at a safe operating point and confirm alarms, trips and feedback paths.
- Record the exact model, configuration, test results and final drawing references in the maintenance record.

05 CONTROLLED DOCUMENTS

Official source	ABB DCS Technical Data 3ADW000165R0201
Product record	SDCS-COM-5 3BSE006567R1
Document	Amikon Installation Instructions
Support	INFO@AMIKON.CN