SB 66-103

Replacement of BA 601 Load Measuring Amplifier by WATTS Card

2018-05-18

Rev. B

1 Scope and Target Group

WARNING

- ✓ Always refer to the user manual for additional information and safety warnings.
- ✓ Only perform this task if you are qualified to carry out the steps described below.
- ✓ Always make sure that the tasks described in this bulletin are intended for the equipment you are working on.
- ✓ If you are unsure about the workflow, steps or qualification, contact your TTS aftersales service contact.

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2 Target

This document shows how to replace a BA 601 load measuring amplifier by the new WATTS load measuring card.

NOTICE The WATTS card will be delivered preset for the destination winch. It is not possible to use this WATTS card for a different winch.

3 Preparation

The retrofit package contains:

1. WATTS amplifier card in PCB pocket
2. Mounting rail TS 35x15, 200 mm (
3. Set of screws and washers

You need the following tools:

4. Screwdriver
5. Wrench

Hazard of Electric Shock!

WARNING Switch off all power supply in the switch cabinet before starting work!

Make sure that no-one switches on the power supply while you are replacing the card!

4 Removal of BA 601

1. Switch off the mainbreaker inside main cabinet.

2. Remove the spaceheater. The WATTS card already has a 24VDC spaceheater on PCB.

3. Disconnect and mark the wires from the BA 601 and remove them.

4. Measure the length of the installed mounting reel.
   If it is longer than 160 mm, you can use it for the WATTS card.
   If it is shorter than 160 mm, remove it and replace it by the mounting rail included in the reftrofit set.
   If required remove the connectors.
   If you have removed the connetors, disconnect the wires for spaceheater inside main switch cabinet to permanently disconnect the 230V power supply for the heater.

Figure 1: Installation examples for BA 601

5 Mounting the WATTS

Hazard of Damage!

WARNING

The WATTS card requires a power supply of 24VDC. Connecting the card to 230V will destroy the card!

1. Click the PCB pocket with the WATTS card on the mounting rail.
2. Connect all cables to the WATTS card. Refer to figure 2.
   Connect the cables as follows:
   a. Connect the load pin (DMS terminals 1-5).
   b. Connect the analogue output signals from WATTS card (SPS terminals 1-3).
   c. Connect power supply to WATTS (SPS terminals 7-8).

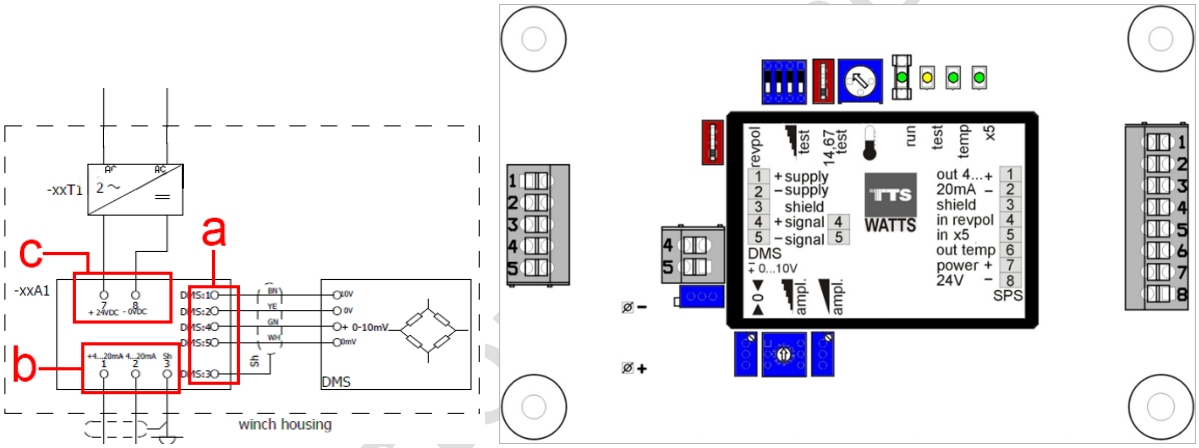

Figure 2

	Description
out 4...+ 1 20mA – 2 shield 3 in revpol 4 in x5 5 out temp 6 power + 7 24V – 8 SPS	Connection clamps for external wiring (24V/PLC) 1 – 2 Current loop connected to PLC analogue input 3 Shield connection 4 Polarity reversal DMS-Bridge connected with PLC binary output 5 Mode with 5 times boost connected with PLC binary output 6 Feedback temperature out of range connected with PLC binary input 7 – 8 Power supply 24V DC (supplies WATTS and Heating system)
1 + supply 2 – supply 3 shield 4 + signal 5 – signal DMS	Connection clamps for internal wiring (DMS) / Strain gauge 1 – 2 Supply from DMS-Bridge / Strain gauge 3 Connection point for cable shielding 4 – 5 Differential Voltage (Measurement. value) from DMS-Bridge / Strain gauge