

M40079.V14 Torque measuring unit

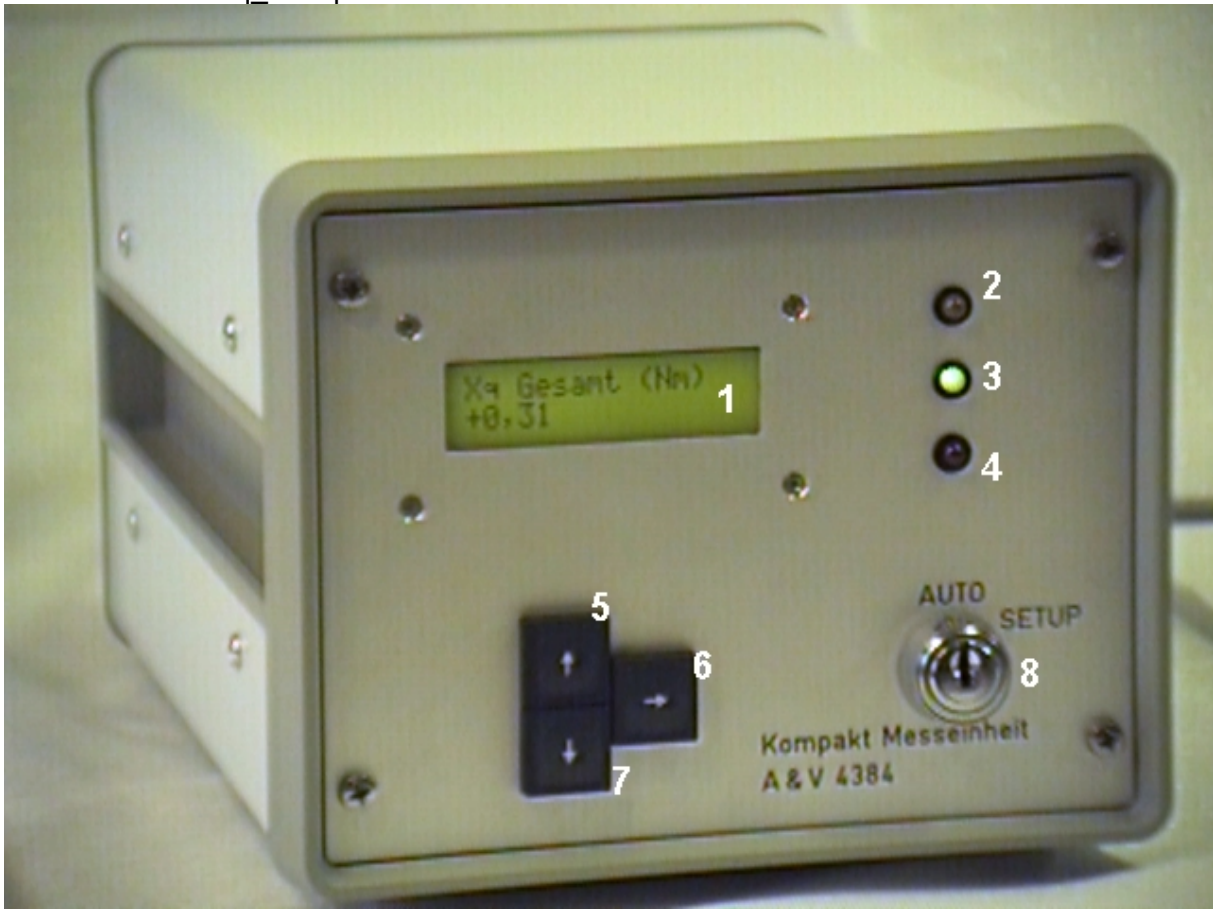
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The torque measuring unit M40079.V14 stores the torque peak value during the measuring cycle. This measured value is valued in 3 classes. Additionnally, an automatic zeroing is carried out in an AUTOZERO cycle. There the torque zero value, which occurs appliance relatively in this cycle is corrected as offset for the following measurements.

The adjustment quantities from up to 32 different model-no. can be set aside secure of network failure in the measuring unit and by selection of the corresponding model number, be called up through the external control.

1. Displays and control elements

Front view 4384xq_1.bmp



- 1 - Display
- 2 - Lamp: passing of tolerance
- 3 - Lamp: tolerance GOOD
- 4 - Lamp: falling below tolerance
- 5 - Pushbutton UP
- 6 - Pushbutton ENTER
- 7 - Pushbutton Down
- 8 - Keyswitch SETUP – Operating mode (AUTO)

Back view 4384bck1.bmp



T1 -	Input torque sensor
T2...T3 -	not used
T4 -	DC-voltage output torque sensor
X312 -	Input from external control unit
X412 -	Analog output torque X_average entire
X401 -	Input power supply
X402 -	Printer output
S1 -	Power supply switch
F1-	Power supply fuse
-12V -	Indicator -12V supply
+12V -	Indicator +12V supply
+ 5V -	Indicator +5V supply

Display modes

MAX (Nm)	Torque peak value of the last measuring cycle
Model no. 000...031	Last called type. The adjustment values of the shown model no. are read from the memory while the display is switched on.
Autozero L	Autozero value
Actual value Nm	Actual value (present value) of torque
MAX UT	Upper tolerance limit
MAX LT	Lower tolerance limit

Caution: The pushbuttons UP and DOWN are locked in the operating mode (AUTO), so that the calibration values can only be changed in the SETUP-mode.

2. Power supply

Connect the plug X401 of A&V 4384 via the power cable (europ. standard) with 230V, 50 hertz and turn on the mains switch S1 on the backside.

3. Setup: Keyswitch at the front in position SETUP

3.1 Model no.

First step is to select the model number you wish to work with. Select the display mode „model-no.“ By repeated pushing of pushbutton ENTER. Select the necessary value (000...031) by pushing the pushbutton UP or DOWN. The calibration values for 3.4, 3.5 and 3.6 will be read out from the memory when leaving the display mode „model-no.“.

3.2 Torque sensor connection

The sensor has to be connected with the connector T1 at the backside.

3.3 Checking the gain adjustment

The calibration may be done only by special educated persons. The calibration is possible at the backside with hidden adjuster T1. The unit has been calibrated in our factory.

Gain adjustment with lever-arm and gauge weight:

approximation formula: torque (Nm) = lever-arm (cm) * weight (kg) * 0,1

For example: lever-arm 20cm, gauge weight 5kg -> torque 10Nm

a) Exonerate the torque sensor and set display value to zero (see 3.4).

b) Put the gauge weight to the lever-arm and read the display value.

c) If the display does not show the correct value, the calibration has to be corrected with the hidden adjuster T1 at the backside so that the display value is correct. After that, this check and correction has to be repeated beginning at a) until the display shows the correct value.

3.4 Zero point adjustment

Select the display mode „act.val. Nm“ by repeated pushing of pushbutton ENTER. With exonerated torque sensor the adjustment will be done by positioning the online value display to zero (Push pushbutton UP or DOWN).

3.5 Upper tolerance limit adjustment

Select the display mode „MAX UL“ by repeated pushing of pushbutton ENTER. Adjust the necessary value by pushing the pushbutton UP or DOWN. This adjustment will be stored for the actual model-no. When the keyswitch is turned into position AUTO. Then the value will be preserved even when the power supply is switched off.

3.6 Lower tolerance limit adjustment

Select the display mode „MAX LL“ by repeated pushing of pushbutton ENTER. Adjust the necessary value by pushing the pushbutton UP or DOWN. This adjustment will be stored for the actual model-no. When the keyswitch is turned into position AUTO. Then the value will be preserved even when the power supply is switched off.

3.7 Display of the MAX-value of the last measurement

Select the display mode „MAX (Nm)“ by repeated pushing of pushbutton ENTER.

3.8 Choice of language version

(from program version > 40079V14 400)

Select the display mode " MAX (Nm) ". Push the pushbuttons arrow UP and DOWN at the same time. The chosen language is shown: DEUTSCH, FRANCAIS, ESPANOL or ENGLISH. Select the language by pushing the pushbutton arrow UP or arrow DOWN. Then push pushbutton arrow RIGHT. The display mode" MAX (Nm) " is shown again and the chosen options are stored durably.

4. Operating mode: Keyswitch at the front in position AUTO

The unit is ready for measuring independent of the display mode. After switching on the unit an AUTOZERO CYCLE has to be done first, before measuring. In operating mode only the display mode may be selected. The changing of any adjusted values is blocked.

5. Programming

5.1 Sign of measuring value

The changing of the sign is stopped by setting up connections at X312 (see 6. connection schematics).

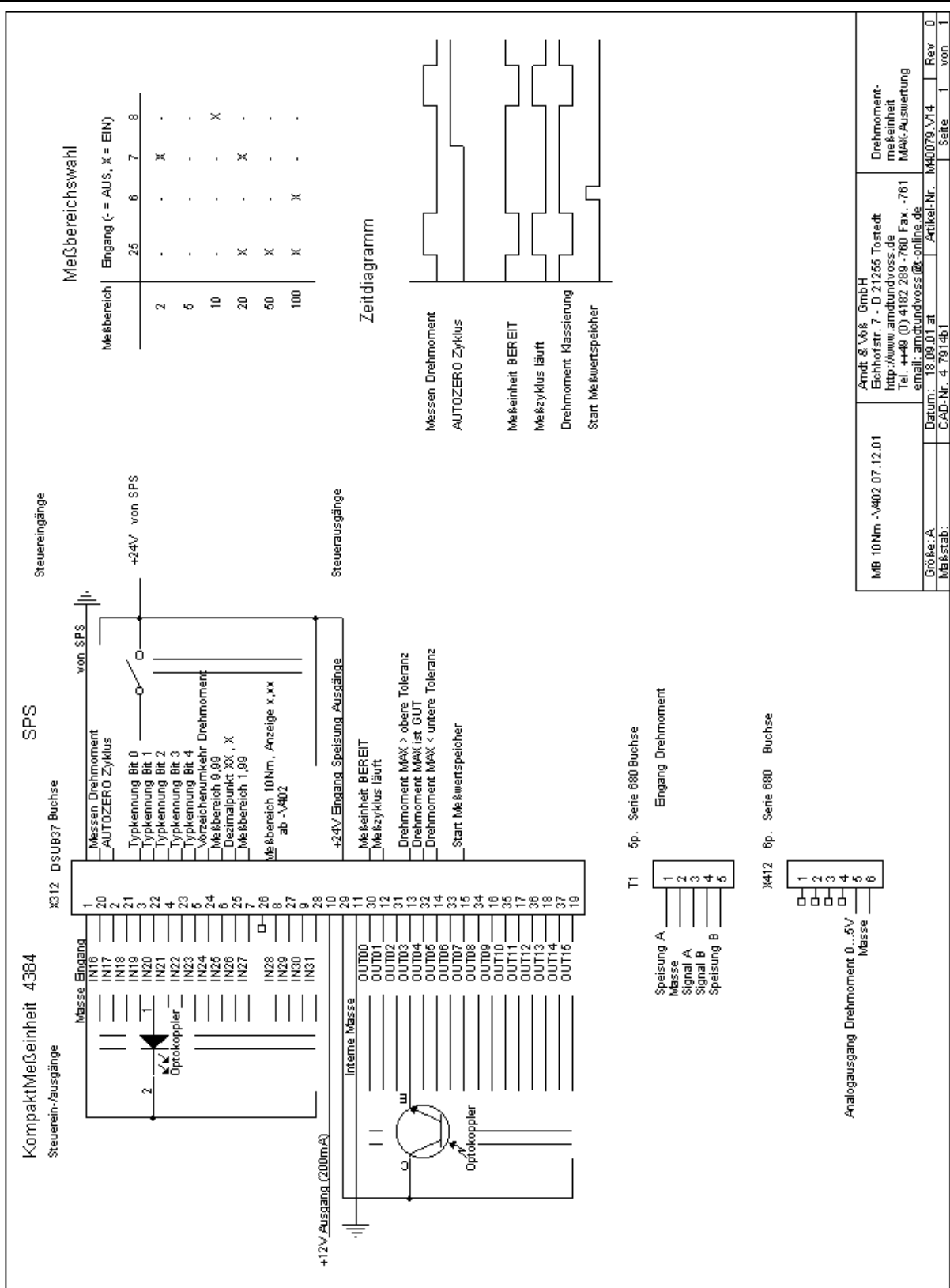
5.2 Measuring range

By adding different connections in the connector X312, the measuring ranges 2, 5, 10, 20, 50, 100 Nm are programmable (see 6. Connection schematics). Without any additional connections the range 5 Nm is selected.

5.3 Measuring program

The result of the average value is fixed.

6. Connection schematics



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Größe A Maßstab:	Datum: 18.09.01 at CAD-Nr. 4-7914b1	M40079.V14
	Seite	Rev. 0
	1	von

Security comments according to VDE 0411

General technical

time for warming up	20 minutes
temperature	0...+40 Grd C
atmospheric humidity	on to 75% rel.
frequency	50/60 Hz
power supply voltage	230V +/-10%
security	according to VDE 0411, protection class 1

This unit is built and checked under DIN 57411 part 1/VDE 0411 part 1 and left the factory in a safe and perfect condition. To preserve this condition and to guarantee a safe working the user has to follow the comments and warnings which are given in this instructions.

Before turning on the power you have to make sure, that the voltage of operation and the mains voltage correspond.

The mains plug may only be inserted into a socket with ground contact. The safety effect may not be abolished by an extension lead without ground connection.

The opening of covers or removing of components, except if it is possible to do by hand, might uncover parts or connections under dangerous voltage.

Racks may only be used inside a cover.

If an adjustment, a maintenance or a repair at the opened unit under voltage is unavoidable, it may be done only by a qualified employee, who is well acquainted with the dangers involved.

ATTENTION:

After the end of those works, the unit has to be checked according to VDE 0411, part 1.

You have to make sure, that only fuses of the given type and values are taken for replacement. The use of mended fuses or short-circuiting them is inadmissible.

If it is presumed, that a safe work is not possible, you have to take this unit out of work. A safe work may not be possible, if

- there are visible damages at the unit.
- the unit doesn't work.
- after longer storage under unfavourable circumstances.
- after heavy stress of transport.