Technical data	MFTM 1500
Accuracy class for calibration devices DIN EN ISO 9513 annex B	0.5 from 2mm measuring travel 1 from 1mm measuring travel
Measuring system	Heidenhain ERO 1480
Measurement principle	Optically-incremental A/B
Signal period	100 µm
Output signal	1 Vpp
Travel	1500 mm
Recommended resolution	≤ 0,1 µm
Relative indication error *	0.2% from 2 mm measuring travel 0.4% from 1 mm measuring travel
Dimensions without clamping bolts	Height 160 mm
	thickness 60 mm
	width 80 mm
Clamping bolt	Ø 16 / length 50 mm
Recommended counter	ND 280 from company Heidenhain
Weight	approx. 1.25 kg

* The larger value is admissible.

MFTM 1500

Measuring device for crosshead travel
on tensile testing machines

M e s s - & F e i n w e r k t e c h n i k GmbH

P r e c i s i o n testing of l i n e a r s t r a i n

Review 2015.01.

Area of application

The MFTM 1500 is suitable to inspect the crosshead travel of tensile testing machines corresponding to the standard EN ISO 9513.

Design and function

In a housing of strong alloyed aluminum are placed a wind up-system, a rope and the measuring system, an angle encoder with high accuracy. By means of the wind up-system the rope ever runs tight and smooth operating the encoder simultaneously.

Evaluation of measured values

The connection of the counter (e.g. ND 280 from company Heidenhain) may be done with the enclosed cable. The counter is not included in the standard delivery scope and has to be ordered separately.
It is recommended to move 2 times with clamped MFTM 1500 through the measuring range before the measurement begins. After this it is also recommended to move (ca. 0.1mm) in the measuring direction and then to reset the counters of the MFTM 1500 as well as the crosshead display to "zero". Both values may now be registrated, respectively compared. Care has to be taken not to exceed the maximum travel of 1500 mm!

Calibration

The MFTM 1500 is checked by the manufacturer in accordance with the technical data.
An official certificate is available on request and has to be ordered separately.

Operation

One of the clamping bolts (Ø 16 mm) has to be screwed into the housing of the MFTM 1500 and tighten with the spanner (13 mm). The second clamping bolt must be screwed into the rope holder and tighten (using both spanners counter wise).

***Attention*:** Care has to be taken not to turn the rope excessively. Malfunction of the device could be the consequence.

Now the MFTM 1500 can be clamped into the grips of the testing machine: the clamping bolt of the MFTM housing has to be clamped into the fixed grip, the clamping bolt of the rope holder has to be clamped into the moving grip.

All the time care has to be taken to pull the rope holder carefully and straight out of the housing.

Attention: To prevent damage of the wind up-system a sudden release of the rope must be absolutely avoided.

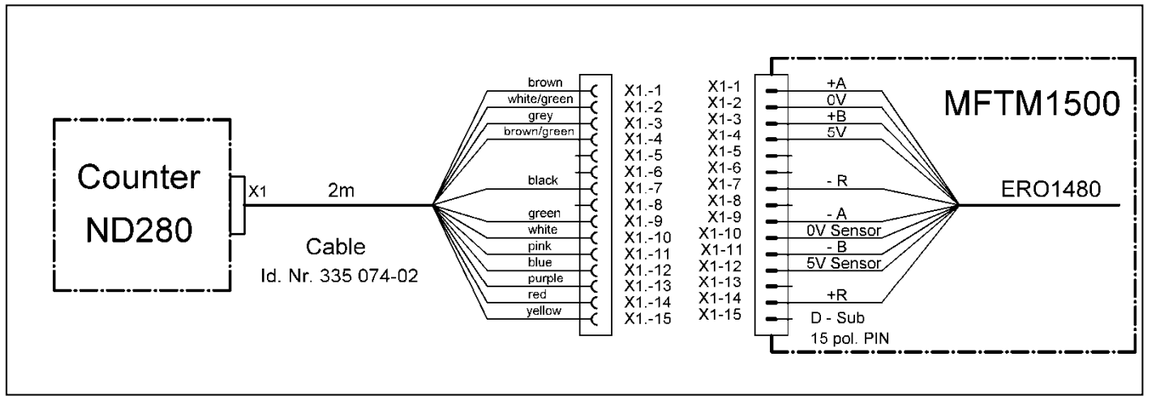
Wiring

Inbuilt socket / pin D – Sub DIN 41652 / 15 pol.

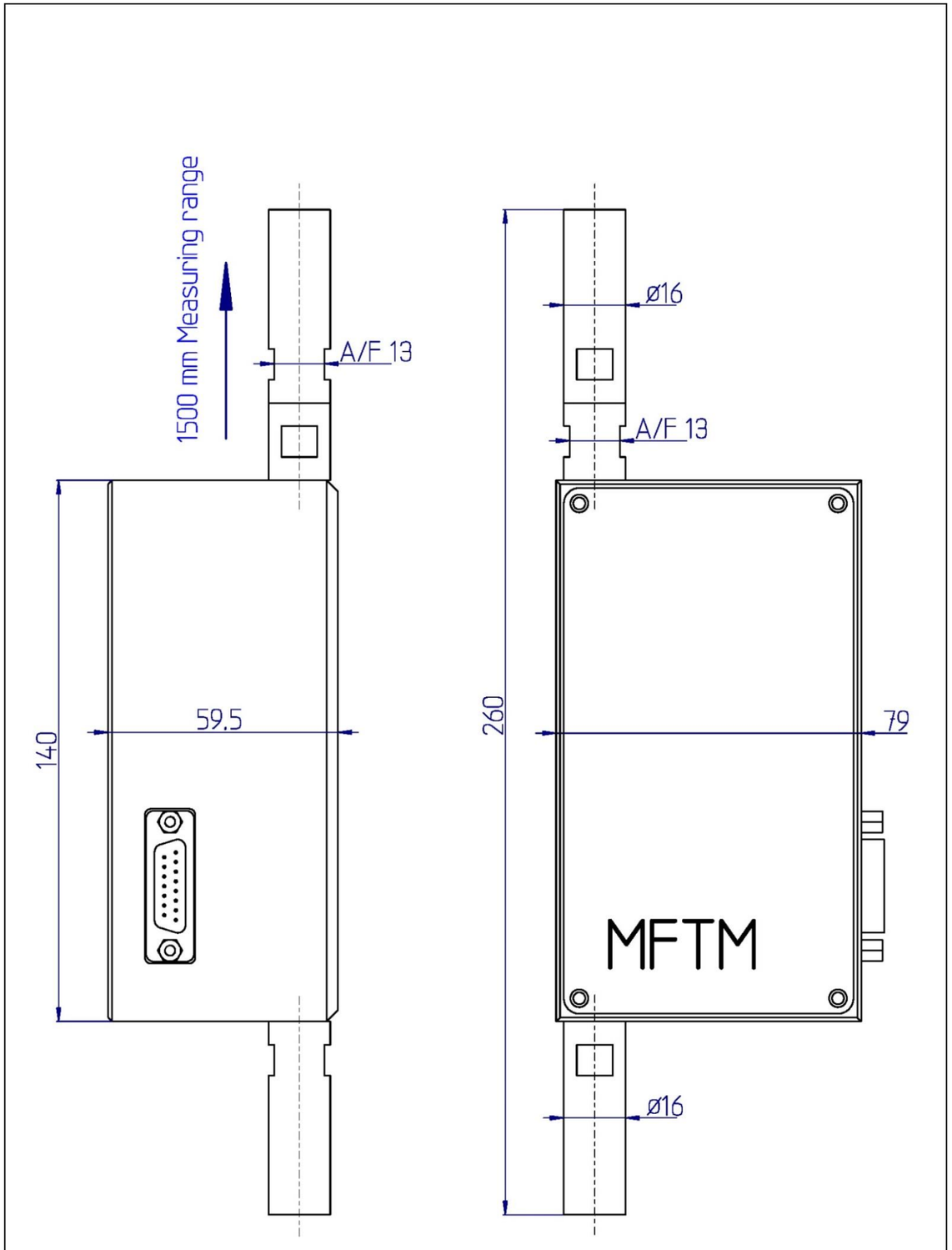
Pin	Name	
1	+ A	Signal / 1 Vpp
2	0 V	GMD
3	+ B	Signal / 1 Vpp
4	5 V	Input
5	free	
6	free	
7	free	
8	free	
9	– A	Signal / 1 Vpp
10	0 V	Sensor
11	– B	Signal / 1 Vpp
12	5 V	Sensor
13	free	
14	free	
15	free	

Delivery scope

1	MFTM 1500
2	Clamping bolts / Ø 16 mm
2	Spanners 13 mm



Picture 1: MFTM 1500 - Wiring



Picture 2: MFTM 1500 – Measuring device for crosshead travel on tensile testing machines