Screwdriving technology | Automation | Air motors | Air tools

DEPRAG

MEASURING ELECTRONIC

Measurement devices

for stationary use

for fully automatic torque and angle recording

- **highly precise, extremely dynamic torque recording**
- **simple and safe handling**
- **controlled by micro-processor**
- **extensive statistics software**
- **comprehensive documentation options**

Measurement devices for connection to your PLC for fully automatic recording, storage and evaluation of your torque and angle values.

Highly precise, extremely dynamic torque recording optionally with integrated strain-gauge or piezo-electric torque transducer.

Our stationary measurement devices for pneumatic screwdrivers enable highly precise and extremely dynamic fully automatic recording, storage and evaluation of torque and angle values.

As well as extensive statistics software this measurement device also provides comprehensive documentation options.
Quick and direct selection of device functions via the membrane keypad allows simple and safe operation.
Navigation is not complicated and therefore extensive training is not necessary for the operation personnel.
Further performance features of these measurement devices include state of the art micro-processor technology, top safety class, an EMC-compatible complete system, as well as extensive networking options.
Accurate recording of highly dynamic tightening procedures for hard screw joints is only possible with the required precision, through the combination of an analogue peak value memory with the high sample rate of the ME 1000 analogue digital converter.
The signal preparation is based on the new VDI directive 2647.
Of course all relevant measurements are traceable to national standards.

For each device you receive the corresponding calibration certificate in accordance with DIN standard 17025. We offer a comprehensive calibration service for the regular inspection of your measurement device.

All measurement devices are connected to the system PLC via galvanically separated input and outputs. Simple operation start-up is guaranteed – signal exchange can be realised with just a few cables. Of course this measurement device can also be used for independent operation. Incorrect screw assemblies are displayed on the device itself. Its software allows the setting of various operator languages as well as various measurement units (metric, inch).

Corresponding printers are also available.

Measurement electronic ME 1000 DMS

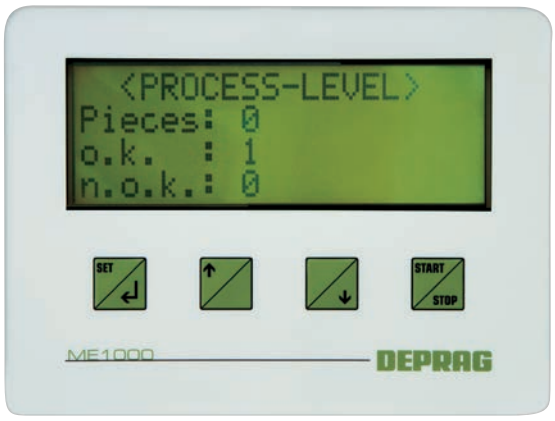
For fully automatic measurement value recording on screwdriving stations with the pneumatic tools MICROMAT-C/MINIMAT-C and integrated strain-gauge torque transducers.
The analogue signal generated by the transducer is transformed directly into measurement values by an analogue digital converter. Additionally the angle can be monitored if the screwdriver is equipped with a sensor.

Measurement electronic ME 1000 PE

For fully automatic measurement value recording on screwdriving stations with the pneumatic tools MICROMAT-C/MINIMAT-C and integrated piezo-electric torque transducers.
The charge generated by the transducer is transformed into electric voltage by a highly precise charge amplifier, which is then converted by a fast analogue digital converter into measurement values. Additionally the angle can be monitored if the screwdriver is equipped with a sensor.

Process Plan of the ME 1000..

Examples for an “okay” (o.k) assembly



Process data version 1: Display of the status counter

Process data version 2:
Display of cycle time, torque and status counter

TECHNICAL DATA

Measuring Electronic	**Type** Part no.	**ME 1000 DMS** 385438 A	**ME 1000 PE** 385437 A
Measurement acquisition		torque and angle	torque and angle
Measuring channels		1	1
Transducers		Pneumatic Measuring Screwdriver (DMS) with angle encoder	Pneumatic Measuring Screwdriver (piezo-electric) with angle encoder measuring platform and torque-wrench (piezo-electric)
Measurement receiving		automatically by PLC manually by key pad or external switch	automatically by PLC manually by key pad or external switch
Operating mode		peak value	peak value
Total measuring-range		0.1 - 400 Nm (0.9 - 3540 in.lbs)	0.01 - 400 Nm (0.09 - 3540 in.lbs)
Number of measuring-ranges		adapted to transducers	6
LCD-display		alphanumeric, 4-lines, 20 digits per line	20 digits per line network (standard PC)
Output data		network (standard PC)	network (standard PC)
Data output (printer or PC)		RS232 9600 Baud	RS232 9600 Baud
PLC-connection		24 V, DC-isolated in- and outputs	24 V, DC-isolated in- and outputs
Input (PLC-output)		start measurement	start measurement
Output (PLC-input)		single measurement-data O.K. single measurement-data not O.K., ready	single measurement-data O.K. single measurement-data not O.K., ready
Transducer connection		4-pin socket board	BNC receptacle
Linearity		≤ ± 1 %	≤ ± 1 %
Accuracy (over the complete measurement range)		≤ ± 1 %	≤ ± 1 %
Scan rate		analog peek memory	analog peek memory
Voltage		24 VDC	24 VDC
Power consumption		30 VA	30 VA
Current protection		IP 54	IP 54
Dimensions (w x h x d)		205 x 200 x 90 mm 8 5/64 x 7 7/8 x 3 35/64 in.	205 x 200 x 90 mm 8 5/64 x 7 7/8 x 3 35/64 in.
Weight		2.8 kg / 6.2 lbs	2.8 kg / 6.2 lbs

OPTIONAL EQUIPMENT

Connecting cable (ME 1000 - PC/RS 232)	Part no.	385471 A		385471 A	
Printer*)	**Type**	**ND 40**	**ND 100**	**ND 40**	**ND 100**
	Part no.	200715 A	823476	200715 A	823476
Additionally required equipment for printer:					
Printer cable (measuring electronic - printer)	Part no.	385470 A	on request	385470 A	on request

*) for additional technical data please refer to catalog D3022E

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CERTIFIED AS PER DIN EN ISO 9001