

#### CARE AND CLEANING

- Handle measuring instruments with care.
- Clean with soft cloth only after any use. If necessary damp cloth with some water.
- If instrument is wet clean and dry it carefully. Pack it up only if it is perfectly dry.
- Transport in original container/case only.

#### SPECIFIC REASONS FOR ERRONEOUS MEASURING RESULTS

- Measurements through glass or plastic windows.
- Dirty laser emitting windows.
- After instrument has been dropped or hit. Please check accuracy.
- Large fluctuation of temperature: If instrument will be used in cold areas after it has been stored in warm areas (or vice versa) please wait some minutes before carrying out measurements.

#### SAFETY INSTRUCTIONS

- Follow up instructions given in user manual.
- Do not stare into beam. Laser beam can lead to eye injury. A direct look into the beam (even from a greater distance) can cause damage to your eyes.
- Do not aim laser beam at persons or animals.
- The laser plane should be set up above eye level of persons.
- Use instrument for measuring jobs only.
- Do not open instrument housing. Repairs should be carried out by authorised workshops only. Please contact York Survey Supply Centre.
- Do not remove warning labels or safety instructions.
- Keep instrument away from children.
- Do not use instrument in explosive environment.
- The user manual must always be kept with the instrument.

#### LASER CLASSIFICATION

The instrument is a laser class 2 laser product according to DIN IEC 60825-1:2007-03.

It is allowed to use unit without further safety precautions. Eye protection is normally secured by aversion responses and the blink reflex.

The laser instrument is marked with class 2 warning labels.



#### ELECTROMAGNETIC ACCEPTABILITY (EMC)

- It cannot be completely excluded that this instrument will disturb other instruments (e.g. navigation systems).
- Will be disturbed by other instruments (e.g. intensive electromagnetic radiation, nearby industrial facilities or radio transmitters).

#### CE-CONFORMITY

Instrument has CE-mark according to EN EN 61010-1:2011-07.

#### WARRANTY

- This product is warranted by the manufacturer to the original purchaser to be free from defects in material and workmanship under normal use for a period of two (2) years from the date of purchase.
- During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or similar model at manufacturer's option), without charge for either parts or labour.
- In case of a defect please contact York Survey Supply Centre. The warranty will not apply to this product if it has been misused, abused or altered. Without limiting the foregoing, leakage of the battery, bending or dropping the unit are presumed to be defects resulting from misuse or abuse.

#### EXCEPTIONS FROM RESPONSIBILITY

- The user of this product is expected to follow the instructions given in the operator's manual. Although all instruments left our warehouse in perfect condition and adjustment the user is expected to carry out periodic checks of the product's accuracy and general performance.
- The manufacturer, or its representatives, assumes no responsibility of results of a faulty or intentional usage or misuse including any direct, indirect, consequential damage, and loss of profits.
- The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster (earthquake, storm, flood, etc.), fire, accident, or an act of third party and/or a usage in other than usual conditions.
- The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits due to a change of data, loss of data and interruption of business, etc., caused by using the product or an unusable product.
- The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage other than explained in the user manual.
- The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement or action due to connecting with other products.



# YORK Survey Supply

## Multi-Digit Pro +



Code: 263080

## Operating Instructions

#### Follow us!

- York Survey Supply Centre
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#### York Survey Supply Centre

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E-Mail: sales@yorksurvey.co.uk www.yorksurvey.co.uk

# Multi-Digit Pro + Operating Instructions

## KIT CONSISTS OF

Angle and Slope Measurer Multi-Digit Pro +, padded bag, batteries, user manual

## FUNCTIONS

Electronic angle measurer, electronic slope measurer, laser spirit level, for measuring angles, inclinations, slopes and plane surfaces

## TECHNICAL DATA

Working range angle:	0° - 180°
Resolution:	0.1°
Accuracy angle:	±0.1°
Working range inclination:	0° - 90° or 0% - 100%
Resolution:	0.1° or 0.1%
Accuracy inclination:	0° + 90° (±10°) = ±0.1° / 10° - 80° = ±0.2°
Range of laser:	20m
Accuracy of laser:	±0.3mm/1m
Laser wavelength:	650nm
Laser class:	2
Power supply:	3x 1.5V AA 1x 3V button battery
Operating time:	48hrs
Length (unfolded):	530mm (1000mm)
Weight:	1.2kg incl. batteries

## POWER SUPPLY

Open the battery compartment cover on the reverse side of the instrument and put in batteries (take care of polarity). Close battery cover again.



## Important

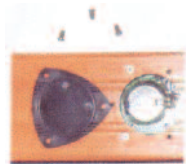
Battery symbol flashes when batteries need to be replaced.



## IMPORTANT

If "error" is displayed replace button battery (reverse side) immediately. This button battery secures power supply when main battery is replaced so that the instrument will keep all calibration.

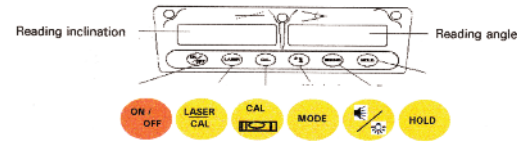
Switch off instrument before replacing button battery.



## NOTE

Calibration of inclinometer:

- calibrate before first use
- before important measurements
- after a hit or drop
- after a large fluctuation in temperature



## FEATURES

### ON/OFF

Switch instrument on/off

### LASER/CAL

Press button short to switch on/off laser beam.  
Press button long to switch on angle calibration (see chapter, "Check and Calibration")

### CAL

Calibration of horizontal angle (see chapter, "Check and Calibration")

### MODE

Press button short to select 5 different display modes (see chapter, "Additional Functions")

### Sound/Light Button

Press button short to switch on/off signal tone - (0° position of inclination will be confirmed by a signal tone).

Press button long to switch on backlight illumination.

### HOLD

Current readings of inclination and angle will be frozen by pressing HOLD (figures are flashing). By pressing HOLD again figures will be released.

## ADDITIONAL FUNCTIONS

### Automatic shut-off

If no button is used for 20 minutes the instrument will switch off automatically.

### Sound

Switch sound function on. The instrument will now show by a sound signal that horizontal or vertical position approaches. The closer the position is the denser the sound signal will be. If the instrument is in correct vertical or horizontal position the sound will be continuous.

### Mode functions [1] - 5) - 1]]

- 1) Slope indication in ° (14.5°)
- 2) Slope indication in % (25.9%)
- 3) Indication IN/FT (3 1/8 IN/FT)
- 4) Indication IN/FT (3.10 IN/FT)
- 5) Indication mm/m (258.9mm/m)

Keep mode button pressed to have all mode function switch fast. The display will not show any values. Release mode button to return to standard indication.

## CHECK AND CALIBRATION

Before starting operation an accuracy check of the instrument should be carried out in order to make sure that the instrument works precisely.

### Check of slope measurement

Set the instrument down on a flat and even surface and

switch it on. Wait until the display indication appears and note down measured value (A).

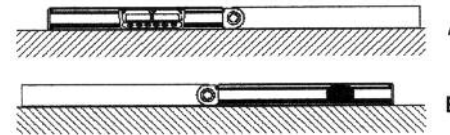
Turn unit by 180° and set it down on the same position as before. Wait until display indication appears and note down measured value (B).

If deviation between the two values A and B is more than 0.2° unit has to be calibrated.

### Calibration of slope measurement

Set the instrument down on the same flat and even surface and switch it on. Press button CAL until display shows "-0-". Wait approx. 3 sec. and press button CAL again until display shows "-1-".

Turn unit by 180° and set it down on the same position as before. Wait approx. 3 sec. and press button CAL again until display shows "-2-". After approx. 2 sec. display will show slope value. Now calibration is completed.



### CHECK OF ANGLE MEASUREMENT

Set the instrument down on a flat and even surface and switch it on. Wait until display indication appears and note down measured value (C).

Unfold angle ruler and set it down on the same position as before. The angle ruler must be flat on the surface. Wait until display indication appears and note down measured value (D).

If C > 0.1° or D ≠ 180 ±0.2° unit has to be calibrated.

### Calibration of angle measurement

Set the instrument down on same flat and even surface and switch it on. Keep button LASER/CAL pressed until display shows "-1-".

Unfold angle ruler and set it down on the same position as before. The angle ruler must be flat on the surface.

Wait approx. 3 sec. and press button LASER/CAL again until display shows "-2-".

After approx. 2 sec. display will show angle value. Now calibration is completed.



## SLOPE MEASUREMENT

Switch on Multi-Digit Pro +.

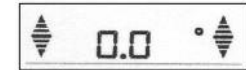
Measured inclination value is shown in left display. Standard unit of measurement is degrees (°) - this can be changed to percent (%) by pressing button MODE. Lay unit on the surface with blank bottom side only.

The 2 arrows in the display indicate which direction Multi-Digit Pro + has to be moved in order to reach 0° or 90° position.

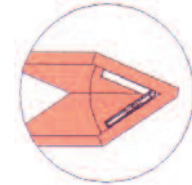
0° - 45.0° Leading to 0° position.

45.1° - 90° Leading to 90° position.

The exact "0" position is shown by double arrows.

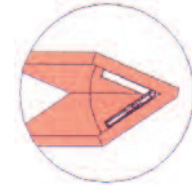


Display has automatic digit inversion for overhead measurements. Reading of measured values is possible in every position.



## ANGLE MEASUREMENT

Measured angle value is shown in the right display (0 - 180°).



## LASER BEAM

By switching on the laser beam Multi-Digit Pro + can be used as a laser spirit level too. The working range extends to 20m. The height of the laser from the base is 30.5mm.



## CONNECTION TO CAMERA TRIPOD

With 1/4" thread (at bottom side) Multi-Digit Pro + can be connected to a camera tripod.

## LOCKING OF ARM

The angle ruler can be locked in any desired position. For example at an angle of 90° to transfer right angles. Or at an angle of 180° to extend the unit to 1m (see picture):

