ND 780 Series
– Adaptable Readout for up to Three Axes

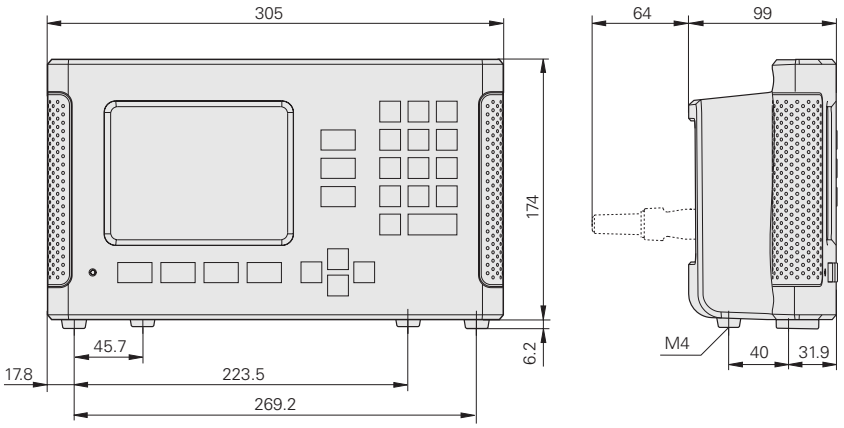
The ND 780 disply unit is especially suited for use on milling, drilling and boring machines and lathes with up to three axes. A separate I/O unit provides switching input/outputs for simple tasks in automation.

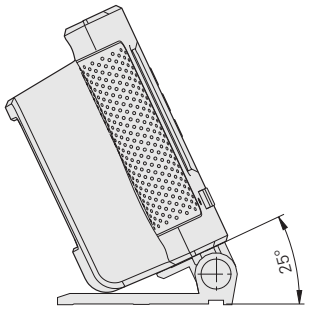
Design
The ND 780 display unit is designed as a sturdy upright unit with splash-proof full-travel keypad for use in a workshop. It is equipped with a monochrome flat screen for position values, dialog and input displays, graphic functions and graphic positioning support.

Functions
The **ND 780** display unit is characterized by its plain language dialog guidance. The **distance-to-go display** facilitates positioning. You approach the next position quickly and reliably by simply traversing to the display value zero. The functions for each application are easily activated by parameter input. Special functions are available for producing **hole patterns** (linear patterns and circular patterns). Datums can be determined quickly and accurately with an edge finder. The ND 780 readout supports you with special **probing functions**.

You can easily switch between radius and diameter display when the position display is configured for turning. The readout also offers support for lathes with separate top slide: The **sum display feature** allows you to display the saddle and top slides together or separately. To set a datum, touch the workpiece and **freeze the tool position.** Then retract and measure the workpiece.

Data interfaces
The ND 780 has an RS-232-C/V.24 serial interface for measured value transfer to a PC or printer, for input/output of parameters and compensation value lists, and for diagnostics.





Dimensions in mm

Tolerancing ISO 8015
ISO 2768 - m H
< 6 mm: ±0.2 mm

	ND 780
Axes	Up to 3 axes from A to Z and Z_O, Z_S
Encoder inputs	3 x ⌒ 1 V_{PP} or ⌒ 11 μA_{PP}; 15-pin D-sub female (automatic interface recognition)
Input frequency	≤ 100 kHz
Signal period	2 µm, 4 µm, 10 µm, 20 µm, 40 µm, 100 µm, 10240 µm, 12800 µm
Line count	Any
Subdivision factor	Max. 1024-fold
Display step[1]	*Linear axis:* 1 mm to 0.0001 mm *Angular axis:* 1° to 0.0001° (00° 00' 01")
Display	Monochrome flat screen for position values, dialog and input displays, graphic functions and graphic positioning support
Status display	Operating mode, REF, reference-point number, tool number, inch, scale, feed-rate display, stopwatch
For milling/drilling/boring	Tool compensation R+, R–
For turning	Radius/diameter display Separate or sum display for Z and Z_O
Functions	• 10 datums • 16 tools • REF reference mark evaluation for distance-coded and single reference marks • Distance-to-go display with nominal position input in absolute or incremental values • Scaling factor • mm/inch switching • **HELP:** on-screen operating instructions • **INFO:** Stopwatch, pocket calculator, cutting data calculator (for milling), taper calculator (for turning)
For milling/drilling/boring	• Calculation of positions for hole patterns (circular and linear patterns) • Tool radius compensation • Probing function for reference-point acquisition with the KT edge finder: "Edge," "Centerline" and "Circle center"
For turning	• Freezing the tool position for back-off • Probing functions for reference-point setting with the tool
Error compensation	*Axis error:* Linear and multipoint over up to 200 points *Backlash compensation:* For length measurement via ball screw and rotary encoder
Data interface	**RS-232-C/V.24** 300 to 115200 baud • For output of measured values and parameters • For input of parameters, remote control of keys and commands
Switching I/O	• Two inputs (pulse or contact) for measured value output • 1 input for KT edge finder • 1 input for edge finder with contact triggering • Further input/outputs over the IOB 49 input/output unit
Accessories	KT edge finder (for milling) tilting base, handle, tilt/swivel mount, pivot arm
Main power input	Primary-clocked power supply 100 V~ to 240 V~ (–15% to +10%), 48 Hz to 52 Hz
Power consumption	30 W
Operating temperature	0 °C to 45 °C
Protection EN 60529	IP 40, front panel IP 54
Weight	2.6 kg (approx.)

[1] Depends on the signal period or line count of the connected encoder