

DM2 60 OEM is an OEM style open distance meter unit designed for system integration. This device use a visible red laser as light source and it is a phase meter with gives good accuracy with 2 mm accuracy up to 60 meter in distance. Laser is a class 2 eye safe device that can be used with no restrictions.

Features DM2 60 OEM

- * Small and compact unit 100x30x50 mm. Open frame OEM unit
- * RS 232 computer interface to communicate with PC systems/ PLC or Mobile modems
- * 60 meter range with 2 mm accuracy
- * Speed 5-10 Hz by RS 232 output
- * Attractive priced for large volume applications and price sensitive matters
- * Suitable for low speed 3D scanners and pile measurement systems
- * Options like industrial rugged casings, GSM Mobile phone communication and control alarm relay interface etc.

Key	Factors increasing range	Factors reducing range
Target surface	Bright and reflective surfaces such as the target plates	Matt and dark surfaces Green and blue surfaces
Airborne particles	Clean air	Dust, fog, heavy rainfall, heavy snowfall
Sunshine	Darkness	Bright sunshine on the target

1.2 Prevention of erroneous measurements

1.2.1 Rough surfaces

On a rough surface (e.g. coarse plaster), measure against the center of the illuminated area. To avoid measuring to the bottom of gaps in the surface use a target plate or board.

1.2.2 Transparent surfaces

To avoid measuring errors, do not measure against transparent surfaces such as colorless liquids (such as water) or (dust-free) glass. In case of unfamiliar materials and liquids, always carry out a trial measurement.

Erroneous measurements can occur when aiming through glass panes or if there are several objects in the line of sight.

1.2.3 Wet, smooth, or high-gloss surfaces

1 Aiming at an "acute" angle deflects the laser beam. The DM2-60m may receive a signal that is too weak (error message) or it may measure the distance targeted by the deflected laser beam.

2 If aiming at a right angle, the DM2-60m may receive a signal that is too strong (error message)

1.2.4 Inclined, round surfaces

Measurement is possible as long as there is enough target surface area for the laser spot. On irregular and round surfaces the arithmetic average of the illuminated surfaces will be measured.

1.2.5 Multiple reflections

Erroneous measurements may occur if the laser beam is reflected by other objects than the target. Avoid any reflective object along the measurement path

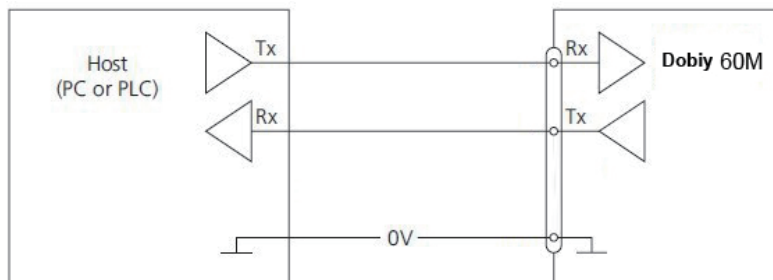
2 Installation

2.1 Device Wiring

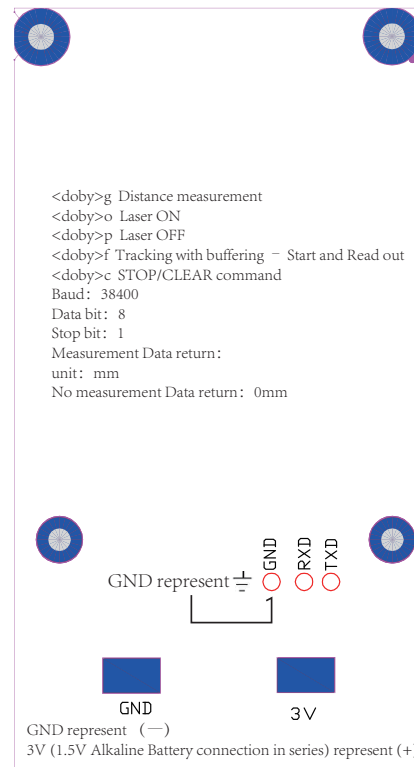
2.1.1 Controlled mode

RS232

Only point-to-point communication is possible when using the RS232 interface.



We can offer models like this with up to 200 meter in range and solid encapsulation. There is also an option for an inclinometer and one for mobile phone reading of distance data in applications like level control in silos and piles.



Typical measuring accuracy for Doby 60m	±2mm
Smallest unit displayed	1 mm
Measuring range	0.05 m to 60 m
Diameter of laser spot at target at a distance of	6mm @ 10m 30mm @ 60m
Time for a measurement Single measurement: Tracking:	Typical: 0.3 s to 4 s Typical: 0.3 s to 4 s
Light source	Laser diode 620-690 nm (red) IEC 60825-1:2007; Class 2 FDA 21CFR 1040.10 and 1040.11 Beam divergence: 0.16 x 0.6 mrad Pulse duration: 0.45x10 ⁻⁹ s Maximum radiant power: 0.95 Mw
ESD	IEC 61000-4-2
EMC	EN 61000-6-4 EN 61000-6-2
Power supply	3V
Temperature range during operation	0 °C to +40 °C
Temperature range during storage	-40 °C to +70 °C
Standard interface	1 serial asynchronous interface RS232 /URAT

3 Factory Setting

3.1 Communication parameters

Baud:	38400
Data bit:	8
Parity:	Even
Stop bit:	1

4 Command set

4.1 Operation commands

4.1.1 STOP/CLEAR command <doby>c

Stops the current execution and resets the status LEDs as well as the digital outputs.

	Command	
Command	<doby>c	
Return successful	OK	
Return Error	Ezzzz	
Parameters	zzzz Error code	

4.1.2 Distance measurement <doby>g

Triggers simple measurement of distance. Each new command cancels an active measurement.

	Command	
Command	<doby>g	
Return successful	xxxxxxxxmm	
Return Error	Ezzzz	
Parameters	Xxxxxx Distance mm Unit zzzz Error code	

4.1.3 Laser ON <doby>o

Switches laser the beam ON for easy adjustment.

	Command	
Command	<doby>o	
Return successful	OK	
Return Error	Ezzzz	
Parameters	zzzz Error code	

4.1.4 Laser OFF <doby>p

Switches the laser OFF.

	Command	
Command	<doby>p	
Return successful	OK	
Return Error	Ezzzz	
Parameters	zzzz Error code	

4.1.6 Tracking with buffering – Start and Read out <doby>f

Triggers continuous measurement of the distance with internal buffering in the module (buffer for one measurement). The rate of measurements is defined with the sampling time. If the sampling time is set to zero, the measurements are executed as fast as possible (Measuring speed depends on target conditions). The last measurement can be read out from the module with the command <doby>f. The measurements are continued until the '<doby>f' command is issued.

	Command	
Command	<doby>f	
Return successful	OK	
Return Error	Ezzzz	
Parameters	zzzz Error code	