Ⅶ. SPECIFICATIONS

Telescope

Tube length	: 155.7mm/6.13in.
Magnification	: 30×
Effective diameter of objective	: 45mm/1.77in.
Image	: Erect
Field of view	: 1°24′ (2.4m at 100m/2.4ft. at 100ft.)
Resolving power	: 2.5″
Focusing distance	: 1.3m/14.26in.~∞
Focusing method	: Coarse/fine (2-speed) anallactic focusing
Reticle illumination	: 3-level variable

Angle measurement

Reading system	: Photoelectric incremental encoder (Diametrical detection for H/V circles)
Circle diameter (reading)	: V: 76mm/2.99in. (67mm/2.64in.), H: 88mm/3.46in. (79mm/3.11in.)
Minimum display increment	
DTM-750	
(360°)	: 1″/5″
(400G)	: 0.2mgon/1mgon
(MIL6000/MIL6400)	: 0.005MIL/0.02MIL
DIN18723 accuracy	: 2″/0.5mgon
DTM-730	
(360°)	: 1″/5″
(400G)	: 0.2mgon/1mgon
(MIL6000/MIL6400)	: 0.005MIL/0.02MIL
DIN18723 accuracy	: 3″/1mgon
DTM-720	
(360°)	: 1″/5″
(400G)	: 0.2mgon/1mgon
(MIL6000/MIL6400)	: 0.005MIL/0.02MIL
DIN18723 accuracy	: 4″/1.3mgon

Dual-axis tilt sensor

Method	: Liquid-electric detection
Compensation range	: ±3′
Setting accuracy	: ±1″/±0.2mgon

EDM

Distance range with Nikon prisms

Under normal atmospheric conditions (ordinary haze with visibility about 20km/12.5miles)

DTM-750	
With single prism	: 2,400m/7,900ft.
With triple prism	: 3,100m/10,200ft.
With nine prisms	: 3,700m/12,100ft.

DTM-730
With single prism : 2,200m/7,200ft.
With triple prism : 2,900m/9,500ft.
With nine prisms : 3,600m/11,800ft.
DTM-720
With single prism : 1,600m/5,300ft.
With triple prism : 2,300m/7,600ft.
With nine prisms : 3,000m/9,800ft.

Under good atmospheric conditions (no haze with visibility over 40km/25miles)
DTM-750
With single prism : 2,700m/8,900ft.
With triple prism : 3,600m/11,800ft.
With nine prisms : 4,400m/14,400ft.
DTM-730
With single prism : 2,500m/8,200ft.
With triple prism : 3,300m/10,800ft.
With nine prisms : 4,200m/13,800ft.
DTM-720
With single prism : 2,000m/6,600ft.
With triple prism : 2,800m/9,200ft.
With nine prisms : 3,500m/11,500ft.

Precision

PMSR mode
(At −10°C~+40°C/+14°F~+104°F)
DTM-750 : ±(2+2ppm×D)mm
(At −20°C~+50°C/−4°F~122°F)
DTM-750 : ±(2+3ppm×D)mm
DTM-730 : ±(3+3ppm×D)mm
DTM-720 : ±(3+3ppm×D)mm
MSR mode : ±(5+3ppm×D)mm (within 500m/1600ft.)

Measurement intervals

PMSR mode : 3sec. (initial; 4sec.)
MSR mode : 0.8sec. (initial; 1.8sec.)
TRK mode : 0.5sec. (initial; 1.5sec.)
Least count : PMSR mode 0.2mm/0.001ft. (switchable to 1mm/0.002ft.)
MSR mode 1mm/0.002ft.
TRK mode 10mm/0.02ft.
Temperature compensation range: −40°C~+55°C/−40°F~+131°F
Barometric pressure compensation range : (hPa) 533~1,332hPa (1hPa step)
(mmHg) 400~999mmHg (1mmHg step)
(in.Hg) 15.8in.Hg~39.3in.Hg (0.1in.Hg step)
Prism offset correction : −999~+999mm (1mm step)

Lumi-Guide

Light source	: High luminescence LED
Visible range	: Over 100m/330ft.
Positioning accuracy	: Approx. 6cm/2.4in. at 100m/330ft.
Beam spread	: About 1.5° (2.6m/8.5ft. at 100m/330ft. point)
Clamps/tangent screws	: Coaxial dual speed tangents
Range	: ±5°
Tribrach	: Detachable

Level vial sensitivity

DTM-750	
Plate level vial	: 20"/2mm
Circular level vial	: 10'/2mm
DTM-730	
Plate level vial	: 30"/2mm
Circular level vial	: 10'/2mm
DTM-720	
Plate level vial	: 30"/2mm
Circular level vial	: 10'/2mm

Optical plummet

Image	: Erect
Magnification	: 3×
Field of vision	: 5°
Focusing range	: 0.5m/1.6ft.~∞

Front display/key

Type	: Graphic (256×80 pixel) LCD with backlight illumination 7-level adjustable with 20 keys
Heater	: Automatic sensor control

Rear display/key

Type	: 16 character×4 line, dot matrix LCD with backlight illumination with 5 keys

Connections in the base of instrument

Communications	: Type RS-232C Baud 9600 Max. ASYNC
External power supply	: Input voltage 10.5V Max.

High-speed communications terminal

Type	: RS-232C ASYNC
Baud rate	: 38400 Max.

Battery (BC-5)

Output voltage	: DC7.2V, rechargeable
Continuous operation time	: 4.5hours (angle measurement only) 2.5hours/about 3,000 measurements (angle/distance measurements)

Ⅶ. SPECIFICATIONS

Internal Computer

Main CPU	: NEC V25 (16 bit) with clock frequency 5MHz
Main Memory	: SRAM 512KB (battery backed-up) FEEPROM 256KB (DOS)
Operating system	: MS-DOS®※ compatible
Memory back-up battery	: 3.0V Primary lithium×2

Internal auxiliary memory

EEPROM

DTM-750	: 256KB
DTM-730	: 256KB
DTM-720	: 128KB

External memory card drives : 2

Environmental performance

Operating temperature reang	: −20°C~+50°C/−4°F~+122°F
Storage temperature range	: −25°C~+60°C/−13°F~+140°F

Dimensions

W×D×H	: 175×182.5×367.5mm
Instrument height	: 184mm
Carrying case	: 488×282×261mm

Weight

Main unit	: 6.9kg/15.2lbs.
Battery (BC-5)	: 0.7kg/1.5lbs.
Quick charger (Q-7U/E)	: 0.6kg/1.3lbs
Carrying case	: 4.7kg/10.3lbs.

※MS-DOS is a registered trade mark by Microsoft Corp.