



The TOR scoring station is a computerized scoring station for collection, calculation and presentation of real time firing results from the universal 12-sector Miss Distance Indicators. The TOR scoring station is easily portable and therefore very suitable for regular training.

As an option TOR can handle scoring data from up to four targets simultaneously.

The TOR scoring station presents the scoring results, i.e., the miss distance and sector of each round graphically in three zones and up to 12 sectors. Salvo centre, mean miss distance and number of rounds of each salvo are all part of the presentation. The firing results are also presented in a tabulated form. The complete scoring results can also be printed in full detail on a printer. All salvos are organized and stored on the local hard disc and are available for later analysis.

The result from a specific firing situation can be recalculated with parameters received later to get a more accurate firing result.

The TOR Windows 10 based software gives the user an excellent tool for quick and easy operation and management of the scoring situation parameters. The scoring results are compensated for target speed, distance, and altitude as well as firing situation angles.

All ballistics and calibration data for the most common calibers are included.

When the Scoring Stations is equipped with up-link capability this functionality is directly available from the scoring software. A separate up-link control unit (UCU) is available as well

As an option the TOR scoring station can be connected to multi muzzle microphones to improve the accuracy of the shooting scenario. Furthermore, it is upgradeable to incorporate GPS data in the calculations for even higher accuracy.

All our universal 12-sector miss distance indicator (MDI) can be upgraded and equipped with a GPS receiver. With the GPS receiver following features are available:

- Exact registration of time and trajectory of the target when a shot is registered
- Continuous update on the altitude of the target.
- Access to positional data of the target will increase the precision in the calculations of the scoring results as several firing parameters does not need to be estimated.
- The location of the target can be plotted in real time in a mapping application.

The GPS data is transmitted every second via the MDI transmitter to the Scoring Station.

TECHNICAL DATA

GENERAL

Operating temperature	-20 °C to + 50°C
Storage temperature	-30 °C to + 70°C
Water and dust	IP64 or better
Uplink capability	Optional
<ul style="list-style-type: none"> • turn on/off MDI • sensitivity setting • setting of downlink channel • lamp control 	
Simultaneous scoring	TDU-1: 1 target TDU-2: 2 , 3 or 4 targets
Printing	Printer and/or receipt printer optional

COMPUTER

Computer	Standard Laptop. Optionally: Panasonic Toughbook or similar
Operation System	Windows 10
Processor	Core i5 7300U or similar
Screen	12" - 15" with resolution 1600 x 1080 or better
Memory	8 GB RAM / 256 GB SSD
Standards	MIL-STD-810G, IEC 60529 (Panasonic Toughbook)

TELEMETRY DATA UNIT (TDU)

Connection to computer	USB (Ethernet or Bluetooth available upon request)
Power supply	100/240 VAC or 12 – 32 VDC
Antenna connector	TNC – type, female
Number of receivers	TDU-1: 1 TDU-2: 2 - 4
Size	TDU-1: 245 x 175 x 60 mm TDU-2: 245 x 210 x 80 mm
Weight	TDU-1: 1.7 kg TDU-2: 2.1 kg
Muzzle microphone input	Optional
Standards	Designed for MIL-STD-810G, IEC 60529

TELEMETRY

Frequency (down-link)	330 - 473 MHz (one channel per target, max. 4)
Frequency (up-link, optional)	330 - 473 MHz (one per system)
Modulation type	4-level FSK
Transmission Power	1 W
Baudrate	9600 baud
Sensitivity	-116 dBm
Standards	EN 300 113-2 EN 301 489-1, -5 EN 60950-1 FCC CFR47 PART 90

SOFTWARE

Present scoring results:	<ul style="list-style-type: none"> • miss distance and sector of each round • salvo centre • mean distance • number of rounds
Can handle Ground to Air and Air to Air shooting situations	
Can handle different firing angles, target speed, altitude and shooting distances	
Recalculation of data with updated information of shooting situation	
Creating, storing and retrieving of standard shooting scenarios	
Ballistic and calibration data for most common calibers included	
Efficient data storage and organisation. Possibility to import and export data for offline storage and analysis	
Results can be printed as listings or graphically	
Handling of uplink functionality (optional)	
Handling of muzzle microphone is optional	
Upgradeable to incorporate GPS data in calculation of firing situation	