

SHOWN AT

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GREEN BOOK

Product Overview

USE IT FOR

A first look at the range: for meetings, shows and e-mail.

INSIDE

One page per product:

- Key figures and applications
- Main features
- The principal specifications
- How to order: the part number and its options

PRODUCTS	22
CATEGORIES	5
DATA UPDATED	2026-11-02

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GREEN BOOK

Product Overview

Sensor · Surveillance · Systems

Key figures, main features, the principal specifications and how to order, one page per product, for **22 products** in **five categories**.

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SEG10

Dual Channel (EO-LWIR) Stabilized Gimbal

Ruggedized dual-channel thermal imaging system for unmanned ground vehicles and EO/IR defense surveillance

APPLICATIONS

Border · Armored · **UGV** · Targeting · Radar · Comms mast

FIELD USE On MES01 above ASELSAN's AVAZ acoustic system, on a tracked UGV

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

DETECTOR	EO OPTICAL ZOOM	NOMINAL SPEED	PAN RANGE	WEIGHT
640 × 512 px	30×	180 °/s	360° continuous	4,4 kg

MAIN FEATURES

Dual-Channel Imaging

A **1920 × 1080** day camera with **30×** optical zoom and a **640 × 512** LWIR thermal imager in one **155 mm** gimbal, with both channels displayed at the same time.

Stabilized Line of Sight

Two-axis IMU and encoder based dual-loop stabilization holds the image and the tracker on target while the host vehicle is moving.

STANDARD CONFIGURATION

SEG10-L0625-E1930X · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan and Tilt – Nominal Speed	**180 °/s**
Pan – Axis Range	**360° continuous**
Tilt – Axis Range	**±45°**
Weight	**4,4 kg**
THERMAL IMAGER MODULE	
Detector	**640 × 512 px**
NETD	**50 mK**
Thermal Optical Zoom	**None**
Detection – Vehicle	**3,2 km**

EO CAMERA MODULE	
Resolution	**1.920 × 1.080 px**
EO Optical Zoom	**30×**
EO Horizontal Field of View	**63,7-2,3°**
Detection – Vehicle	**13,0 km**
ELECTRICAL & INTERFACE	
Power Consumption (Max)	**150 W**
Operating Voltage	**18-32 VDC**
MECHANICAL DATA	
Diameter	**155 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 03**

PART NUMBER	**SEG10 – [thermal imager] – [EO camera] – [options]** · 1 build combination
OPTIONS	**LCKT** Lens Cleaning Kit **LG##** Label Language



SEG12

Triple Channel (EO-LWIR-LRF) Compact Gimbal

Ultra-compact, low cost of ownership multi-sensor gimbal for unmanned ground vehicles and EO/IR defense surveillance

APPLICATIONS

Border · Armored · **UGV** · Targeting · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

DETECTOR	EO OPTICAL ZOOM	RANGING SCOPE	NOMINAL SPEED	WEIGHT
640 × 512 px	30×	5-5.000 m	180 °/s	4,6 kg

MAIN FEATURES

Three Channels, One Gimbal

Day camera, LWIR thermal imager and laser range finder acquire data and accept commands at the same time through a single interface.

Low Cost of Ownership

Uncooled thermal technology gives a long MTBF with no cool-down time, no consumables and no scheduled maintenance.

STANDARD CONFIGURATION

SEG12-L0625-E1930X-LR05 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan and Tilt – Nominal Speed	**180 °/s**
Pan – Axis Range	**360° continuous**
Tilt – Axis Range	**±45°**
Weight	**4,6 kg**
THERMAL IMAGER MODULE	
Detector	**640 × 512 px**
NETD	**50 mK**
Detection – Vehicle	**3,2 km**

EO CAMERA MODULE	
Resolution	**1.920 × 1.080 px**
EO Optical Zoom	**30×**
EO Horizontal Field of View	**63,7-2,3°**
Detection – Vehicle	**13,0 km**
LASER RANGE FINDER	
Ranging Scope	**5-5.000 m**
ELECTRICAL & INTERFACE	
Power Consumption (Max)	**150 W**
Operating Voltage	**18-32 VDC**
MECHANICAL DATA	
Diameter	**160 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 07**

PART NUMBER	**SEG12 – [thermal imager] – [EO camera] – [range finder] – [options]** · 1 build combination
OPTIONS	**LCKT** Lens Cleaning Kit **LG##** Label Language



SEG14

Long Range Triple Channel (EO-LWIR-LRF) Stabilized Gimbal

Long-range thermal imager with optical zoom and 32 km laser range finder for precision targeting, surveillance and intelligence gathering

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

SHOWN AT SAHA 2026, on a mast above a tracked UGV

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

DETECTOR	THERMAL ZOOM	EO OPTICAL ZOOM	RANGING SCOPE	WEIGHT
1.280 × 1.024 px	3,2×	30×	5-32.000 m	8,0 kg

MAIN FEATURES

Long-Range Multi-Sensor Gimbal

A **1920 × 1080 30×** day camera, a **1280 × 1024** LWIR thermal imager with continuous optical zoom and a **32 km** laser range finder in one stabilized unit.

Precision Targeting

Brushless servo drives and dual-loop stabilization deliver **±0,01°** pointing for target designation and intelligence gathering.

STANDARD CONFIGURATION

SEG14-L1203X-E1930X-LR32 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan and Tilt – Nominal Speed	**180 °/s**
Pan – Axis Range	**360° continuous**
Tilt – Axis Range	**±45°**
Weight	**8,0 kg**
THERMAL IMAGER MODULE	
Detector	**1.280 × 1.024 px**
NETD	**30 mK**
Detection – Vehicle	**11,5 km**

EO CAMERA MODULE	
Resolution	**1.920 × 1.080 px**
EO Horizontal Field of View	**63,7-2,3°**
Detection – Vehicle	**13,0 km**
ELECTRICAL & INTERFACE	
Power Consumption (Max)	**150 W**
Operating Voltage	**18-32 VDC**
MECHANICAL DATA	
Width	**325 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 11**

PART NUMBER	**SEG14 – [thermal imager] – [EO camera] – [range finder] – [options]** · 3 build combinations
STEP 1 · THERMAL IMAGER MODULE	3 codes · Detector 640 × 512 px – 1.280 × 1.024 px · NETD 30-50 mK
OPTIONS	**LCKT** Lens Cleaning Kit **LG##** Label Language



SEB20

Quad Channel (EO-MWIR-LRF-LD) Targeting Sight

Multi-channel thermal imager with laser designator for weapon systems, main battle tanks and long-range surveillance

APPLICATIONS

Border · Armored · UGV · **Targeting** · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G** · **MIL-STD-461G** · Environmental qualification campaign completed in June 2026

DETECTOR	THERMAL ZOOM	EO OPTICAL ZOOM	RANGING SCOPE	OUTPUT ENERGY	WEIGHT
1.280 × 1.024 px	20×	50×	5-32.000 m	50 mJ	18,4 kg

MAIN FEATURES

Quad-Channel Targeting Sight

A **50×** day camera, a **1280 × 1024** MWIR thermal imager, a **32 km** laser range finder and a laser designator work together for acquisition, ranging and guidance in one sight.

Weapon-Station Accuracy

Better than **100 µrad** (≈ **0,006°**) positioning accuracy with a positioner, using fiber-gyro and encoder based dual-loop stabilization.

STANDARD CONFIGURATION

SEB20-M1220X-E1950X-LR32-LD50 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Accuracy	**0,05°**
THERMAL IMAGER MODULE	
NETD	**20 mK**
Detection – Vehicle	**19,9 km**
EO CAMERA MODULE	
Resolution	**1.920 × 1.080 px**
EO Horizontal Field of View	**61,9-1,3°**
Detection – Vehicle	**13,0 km**

LASER DESIGNATOR	
Wavelength	**1.064 nm**
Pulse Codes	**STANAG 3733 I & II**
ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Power Consumption (Max)	**150 W**
MECHANICAL DATA	
Width	**325 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 16**

PART NUMBER	**SEB20 – [thermal imager] – [EO camera] – [range finder] – [designator] – [options]** · 18 build combinations
STEP 1 · THERMAL IMAGER MODULE	6 codes · Detector 640 × 512 px – 1.280 × 1.024 px · NETD 15-50 mK
STEP 2 · EO CAMERA MODULE	3 codes · Resolution 1.920 × 1.080 px · EO Optical Zoom 30×-68× · Minimum Illumination – High Sensitivity 0,001-0,01 lx
OPTIONS	**LCKT** Lens Cleaning Kit **LG##** Label Language



PED08

Compact Electromechanical Pan-Tilt

Lightweight pan-tilt with true servo control for thermal imagers and directional antennas

APPLICATIONS

Border · Armored · UGV · Targeting · **Radar** · Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

PAN SPEED	TILT TORQUE	AXIS RESOLUTION	ACCURACY	WEIGHT
12 °/s	85 Nm	0,002°	0,04°	9,0 kg

MAIN FEATURES

Compact True Servo Pan-Tilt

A **9 kg** pan-tilt with brushless motors, a matched brushless controller and closed-loop optical encoders, replacing stepper drives at the same size.

Ready to Integrate

MIL-DTL-38999 connectors, RS-422 control with optional Ethernet, and MIL-STD-461G EMI/EMC qualification for ground and light vehicle installations.

STANDARD CONFIGURATION

PED08-0120-0060-0060-0085 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan – Axis Range	**N × 360°**
Tilt – Axis Range	**±45°**
Axis Resolution	**0,002°**
Accuracy	**0,04°**
Weight	**9,0 kg**

SLIPRING	
Line Count	**60 pcs**
ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
MECHANICAL DATA	
Width	**220 mm**
Height	**287 mm**
Depth	**160 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 21**

PART NUMBER	**PED08 – [pan drive] – [tilt drive] – [options]** · 24 build combinations
STEP 1 · PAN DRIVE UNIT	4 codes · Nominal Speed 6-48 °/s · Nominal Torque 30-85 Nm
STEP 2 · TILT DRIVE UNIT	6 codes · Nominal Speed 6-48 °/s · Nominal Torque 30-135 Nm
OPTIONS	**STAB** Stabilization **HNDC** Hand Controller **MPIF** Multiple Payload Interface **SRSH** Sun and Rain Shield **LG##** Label Language



PED10

Ultra Precision Electromechanical Pan-Tilt

Zero Backlash, 0,002° Resolution, 180 °/s Speed, 30M Revolutions without Maintenance Pan-Tilt Unit for Mission Critical Applications such as Thermal Imaging and Target Tracking

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G** · **MIL-STD-461G** · EMC tested in the anechoic chamber

PAN SPEED	TILT TORQUE	AXIS RESOLUTION	ACCURACY	WEIGHT
48 °/s	185 Nm	0,002°	0,04°	16,1 kg

MAIN FEATURES

Ultra-Precision Pan-Tilt

0,002° resolution and **0,04°** accuracy with zero backlash, carrying thermal imagers and radar in mission-critical tracking.

Continuous Duty, No Maintenance

Brushless drives and a 30-million-revolution slipring let the unit run continuously with no scheduled maintenance.

STANDARD CONFIGURATION

PED10-0480-0150-0280-0185 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan – Axis Range	**N × 360°**
Tilt – Axis Range	**±45°**
Axis Resolution	**0,002°**
Accuracy	**0,04°**
Weight	**16,1 kg**
SLIPRING	
Line Count	**60 pcs**
Signal 1	**1 Gbit Ethernet**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Width	**250 mm**
Height	**350-395 mm**
Depth	**202 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 25**

PART NUMBER	**PED10 – [pan drive] – [tilt drive] – [options]** · 24 build combinations
STEP 1 · PAN DRIVE UNIT	4 codes · Nominal Speed 28-180 °/s · Nominal Torque 60-185 Nm
STEP 2 · TILT DRIVE UNIT	6 codes · Nominal Speed 28-180 °/s · Nominal Torque 60-275 Nm
OPTIONS	**STAB** Stabilization **HNDC** Hand Controller **MPIF** Multiple Payload Interface **DLPC** Dual-Loop Control **SRSH** Sun and Rain Shield **LG##** Label Language



PED12

Stabilized Electromechanical Pan-Tilt

High-Capacity, Motorized Pan/Tilt for Long-Range Surveillance, Homeland Security, Vehicle, and Fixed Installations

APPLICATIONS

Border **Armored** UGV Targeting Radar Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

PAN SPEED	TILT TORQUE	AXIS RESOLUTION	STABILIZATION	WEIGHT
48 °/s	185 Nm	0,002°	0,04°	16,1 kg

MAIN FEATURES

Stabilized High-Capacity Pan-Tilt

A gyro-stabilized U-arm positioner for long-range surveillance from vehicles, vessels and fixed sites, holding **0,04°** stabilization accuracy.

Configurable Payload Interface

The width-adjustable U-arm balances large sensor suites, on the same brushless drive train and slipring as the PED10.

STANDARD CONFIGURATION

PED12-0480-0150-0280-0185 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan – Axis Range	**N × 360°**
Tilt – Axis Range	**±45°**
Axis Resolution	**0,002°**
Accuracy	**0,04°**
Stabilization Accuracy	**0,04°**
Weight	**16,1 kg**

SLIPRING	
Line Count	**60 pcs**
ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
MECHANICAL DATA	
Width	**430 mm**
Height	**445 mm**
Depth	**270 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 29**

PART NUMBER	**PED12 – [pan drive] – [tilt drive] – [options]** · 24 build combinations
STEP 1 · PAN DRIVE UNIT	4 codes · Nominal Speed 28-180 °/s · Nominal Torque 60-185 Nm
STEP 2 · TILT DRIVE UNIT	6 codes · Nominal Speed 28-180 °/s · Nominal Torque 60-275 Nm
OPTIONS	**STAB** Stabilization **HNDC** Hand Controller **MPIF** Multiple Payload Interface **DLPC** Dual-Loop Control **SRSH** Sun and Rain Shield **LG##** Label Language



PES10

Ultra Precision Electromechanical Rotator

Zero Backlash, High Torque Single Axis Rotator Units for Radar and Directional Antenna Applications

APPLICATIONS

Border · Armored · UGV · Targeting · **Radar** · Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

NOMINAL SPEED	NOMINAL TORQUE	PEAK TORQUE	AXIS RESOLUTION	WEIGHT
25 °/s	185 Nm	250 Nm	0,002°	9,5 kg

MAIN FEATURES

Zero-Backlash Single-Axis Rotator

High-torque azimuth rotation with no rotational play, for radar and directional antenna applications that cannot tolerate pointing error.

Torque Configured to the Load

Output torque is selected from 185 Nm to 1032 Nm on the same **135 mm** envelope, so one product line covers light antennas to heavy radar arrays.

STANDARD CONFIGURATION

PES10-0250-0185 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Pan – Nominal Speed	**25 °/s**
Pan – Nominal Torque	**185 Nm**
Axis Resolution	**0,002°**
Accuracy	**0,04°**
Repeatability	**0,031°**
Weight	**9,5 kg**
SLIPRING	
Line Count	**24 pcs**
Signal 1	**1 Gbit Ethernet**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Height	**215 mm**
Diameter	**135 mm**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 33**

PART NUMBER	**PES10 – [drive unit] – [options]** · 4 build combinations
STEP 1 · DRIVE UNIT	4 codes · Nominal Speed 4,5-25 °/s · Nominal Torque 185-1.032 Nm · Peak Torque 250-1.114 Nm
OPTIONS	**SRSH** Sun and Rain Shield **LG##** Label Language



PEG03

Ultra Lightweight Military Goniometer

High-Resolution Digital Goniometer for Military Surveillance, Target Acquisition, and Man-Portable Operations

APPLICATIONS

Border · Armored · UGV · **Targeting** · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

PAN RANGE	TILT RANGE	AXIS RESOLUTION	ACCURACY	RATED PAYLOAD	WEIGHT
N × 360°	±45°	0,0056°	0,056°	12 kg	2,9 ± 0,1 kg

MAIN FEATURES

High-Resolution Digital Goniometer

0,0056° (**0,1 mil**) resolution and **0,056°** (**1 mil**) accuracy on both axes, for line-of-sight measurement in surveillance and target acquisition.

Man-Portable Electromechanical Head

Under **3 kg** and **173 × 183 × 115 mm**, with selectable counterbalance for payloads up to **12 kg** and low enough power draw for a full mission on battery.

STANDARD CONFIGURATION

PEG03-0012 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**12 kg**
Pan – Axis Range	**N × 360°**
Tilt – Axis Range	**±45°**
Axis Resolution	**0,0056°**
Accuracy	**0,056°**
Weight	**2,9 ± 0,1 kg**
Performance Independent Braking	**Available**
Fine Adjustment Range	**±0,8438°**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Width	**180 mm**
Depth	**205 mm**
Height	**130 mm**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 37**

PART NUMBER	**PEG03 – [body size] – [options]** · 1 build combination
OPTIONS	**BT74** Nominal Voltage **BT74** Capacity **BT74** Chemistry **SRSH** Sun and Rain Shield **LG##** Label Language



PMD01

Lightweight Manual Pan-Tilt

Lightweight, Precise, and Durable Pan/Tilt Head for Critical Alignment Application for Military EO Sensors, Designators, and Long-Range Optics

APPLICATIONS

Border · Armored · UGV · **Targeting** · Radar · **Comms mast**

QUALIFIED TO **MIL-STD-810G**

RATED PAYLOAD	PAN RANGE	TILT RANGE	AXIS RESOLUTION	WEIGHT
10 kg	N × 360°	±45°	0,0056°	1,4 kg

MAIN FEATURES

Lightweight Manual Pan-Tilt Head

Under **1,4 kg** carrying up to **10 kg**, for precise alignment of military EO sensors, designators and long-range optics.

Controlled Manual Movement

Fine adjustment on both axes with viscous damping and independent braking gives the control of a motorized head without power.

STANDARD CONFIGURATION

PMD01-0010 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**10 kg**
Pan – Axis Range	**N × 360°**
Tilt – Axis Range	**±45°**
Pan Axis – Fine Adjustment Range	**±2,50°**
Tilt Axis – Fine Adjustment Range	**±1,13°**
Axis Resolution	**0,0056°**
Weight	**1,4 kg**
Performance Independent Braking	**Available**

MECHANICAL DATA	
Width	**173 mm**
Depth	**120 mm**
Height	**110 mm**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 41**

PART NUMBER	**PMD01 – [body size] – [options]** · 1 build combination
OPTIONS	**SRSH** Sun and Rain Shield **LG##** Label Language



MES01

Ultra Compact Electromechanical Mast System

The World's Most Compact and Lightweight Motorized Mast for Unmanned Ground Vehicles

APPLICATIONS

Border · Armored · **UGV** · Targeting · Radar · Comms mast

FIELD USE Raises SEG10 on HAVELSAN BARKAN and on the AVAZ carrier UGV

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	OPENING TIME	WEIGHT
535 mm	1.160 mm	5 kg	120 km/h	30 s	4 kg

MAIN FEATURES

The Most Compact Motorized Mast

535 mm retracted, **1160 mm** extended, **4 kg** total, carrying **5 kg** — sized for small unmanned ground vehicles where no other motorized mast fits.

Fully Integrated Drive

Motor, gearbox, screw shaft, sensors, control board and payload cabling are all inside the mast body, with nothing mounted externally.

STANDARD CONFIGURATION

MES01-0535-1160-0005 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**5 kg**
Wind Load	**120 km/h**
Actuating Mechanism	**Motorized**
Drive Type	**Threaded Rod**
Retracted Height	**535 mm**
Extended Height	**1.160 mm**
Weight	**4 kg**
Opening Time	**30 s**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Power Standard	**MIL-STD-1275**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Node Diameter	**92 mm**
Number of Sections	**3**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 45**

PART NUMBER	**MES01 – [mast size] – [options]** · 2 build combinations
STEP 1 · MAST SIZE	2 codes · Retracted Height 535-700 mm · Extended Height 1.160-1.500 mm · Rated Payload 5-10 kg
OPTIONS	**LPEK** Lightning Protection and Earthing Kit **SPPC** Spiral Payload Cable **HEX1** Height Extender **IFPS** Frost Protection Sleeve **LG##** Label Language



MES10

Locked Electromechanical Mast System

Reliable flange-lock mast with extensive payload capacity for Electro-Optical Imaging, Radar and Communication Tasks

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

PLATFORM BMC armored 4×4

QUALIFIED TO **MIL-STD-810G** · **MIL-STD-461G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	MAIN TUBE
1.200 mm	3.005 mm	72 kg	120 km/h	⌀ 150 mm

MAIN FEATURES

High-Capacity Locked Mast

A flange-locked telescopic mast carrying up to **192 kg** and extending to **10 m**, for electro-optical, radar and communication payloads.

Field-Proven Locking

The flange locking system has been in field service since 1977. The mast holds its height mechanically, not by drive torque.

STANDARD CONFIGURATION

MES10-1200-3005-0072 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**72 kg**
Wind Load	**120 km/h**
Actuating Mechanism	**Motorized**
Drive Type	**Flange-Locked Telescopic**
Retracted Height	**1.200 mm**
Extended Height	**3.005 mm**
Main Tube Diameter	**150 mm**
End Tube Diameter	**90 mm**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Power Standard	**MIL-STD-1275**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Number of Sections	**4**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 49**

PART NUMBER	**MES10 – [mast size] – [options]** · 65 build combinations
STEP 1 · MAST SIZE	65 codes · Retracted Height 1.150-2.350 mm · Extended Height 3.005-10.005 mm · Rated Payload 45-192 kg
OPTIONS	**LPEK** Lightning Protection and Earthing Kit **SPPC** Spiral Payload Cable **HEX1** Height Extender **IFPS** Frost Protection Sleeve **CRVH** Control Remote for Vehicle **CBIF** Cable Bundling Interface **IHIF** Instant Height Information **LG##** Label Language



MES20

Modular Electromechanical Mast System

High Performance Weight Ratio Mast Unit Wide Configurations Suitable for Electro-Optical Imaging, Radar and Communication Tasks

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	OPENING TIME	WEIGHT
1.200 mm	2.500 mm	78 kg	120 km/h	60 s	32 kg

MAIN FEATURES

Hybrid Screw-Shaft Drive

Patented screw-shaft actuation gives a high performance-to-weight ratio: **78 kg** payload from a **32 kg** mast.

Electromechanical or Manual

The same body is driven by motor or by crane arm, and locks at any height without springs or flange locks.

STANDARD CONFIGURATION

MES20-1200-2500-0078 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**78 kg**
Wind Load	**120 km/h**
Actuating Mechanism	**Motorized**
Drive Type	**Hybrid Screw Shaft**
Retracted Height	**1.200 mm**
Extended Height	**2.500 mm**
Weight	**32 kg**
Opening Time	**60 s**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Power Standard	**MIL-STD-1275**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Section Width	**140 mm**
Number of Sections	**3**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 54**

PART NUMBER	**MES20 – [mast size] – [options]** · 4 build combinations
STEP 1 · MAST SIZE	4 codes · Retracted Height 1.200-3.300 mm · Extended Height 2.500-14.000 mm · Rated Payload 41-78 kg
OPTIONS	**LPEK** Lightning Protection and Earthing Kit **SPPC** Spiral Payload Cable **HEX1** Height Extender **IFPS** Frost Protection Sleeve **CRVH** Control Remote for Vehicle **CBIF** Cable Bundling Interface **IHIF** Instant Height Information **LG##** Label Language



MEM10

Ultra Stable Electromechanical Mast System

Mast Unit with Minimum Twist and Deflection for Long Range Thermal Imaging, Target Tracking Tasks

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	OPENING TIME	WEIGHT
1.000 mm	2.200 mm	125 kg	120 km/h	45 s	72 kg

MAIN FEATURES

Minimum Twist and Deflection

Individual telescopic screw shafts support every node, giving the stiffest mast in the range for long-range thermal imaging and target tracking.

Operates While the Vehicle Moves

Rated for use at extended height with the vehicle on the move, and for **120 km/h** wind over a **0,4 m²** reference area.

STANDARD CONFIGURATION

MEM10-1000-2200-0125 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**125 kg**
Wind Load	**120 km/h**
Actuating Mechanism	**Motorized**
Drive Type	**Telescopic Screw Shaft**
Retracted Height	**1.000 mm**
Extended Height	**2.200 mm**
Weight	**72 kg**
Opening Time	**45 s**

ELECTRICAL & INTERFACE	
Operating Voltage	**18-32 VDC**
Power Standard	**MIL-STD-1275**
Communication Interface	**RS-422**
Connector Type	**MIL-DTL-38999**
MECHANICAL DATA	
Node Diameter	**180 mm**
Number of Sections	**3**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 58**

PART NUMBER	**MEM10 – [mast size] – [options]** · 4 build combinations
STEP 1 · MAST SIZE	4 codes · Retracted Height 1.000-2.000 mm · Extended Height 2.200-7.200 mm · Rated Payload 100-125 kg
OPTIONS	**LPEK** Lightning Protection and Earthing Kit **SPPC** Spiral Payload Cable **HEX1** Height Extender **IFPS** Frost Protection Sleeve **CRVH** Control Remote for Vehicle **CBIF** Cable Bundling Interface **IHIF** Instant Height Information **LG##** Label Language



MMS20

Modular Manual Mast System

Minimal Deflection and Twist Performance Manual Mast Configurations for Electro-Optical Surveillance, Radar and Communication Tasks

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

SHOWN AT IDEF 2023; raised on a TURAN pickup at SAHA 2026

QUALIFIED TO **MIL-STD-810G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	DEPLOYMENT TIME	WEIGHT
1.200 mm	2.500 mm	58 kg	120 km/h	5 min	32 kg

MAIN FEATURES

Manual Mast, Motorized Performance

A patented hybrid actuator of trapezoidal screws and steel wires gives **58 kg** payload from a **32 kg** manually driven mast.

Shares the MES20 Body

Same square-profile structure and section geometry as the MES20, so manual and electromechanical variants are interchangeable in an installation.

STANDARD CONFIGURATION

MMS20-1200-2500-0058 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**58 kg**
Wind Load	**120 km/h**
Actuating Mechanism	**Manual**
Drive Type	**Hybrid Trapezoidal Screw and Steel Wire**
Retracted Height	**1.200 mm**
Extended Height	**2.500 mm**
Weight	**32 kg**
Deployment Time	**5 min**

MECHANICAL DATA	
Section Width	**140 mm**
Number of Sections	**3**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 62**

PART NUMBER	**MMS20 – [mast size] – [options]** · 4 build combinations
STEP 1 · MAST SIZE	4 codes · Retracted Height 1.200-3.300 mm · Extended Height 2.500-14.000 mm · Rated Payload 21-58 kg
OPTIONS	**LPEK** Lightning Protection and Earthing Kit **SPPC** Spiral Payload Cable **HEX1** Height Extender **IFPS** Frost Protection Sleeve **LG##** Label Language



MMT10

Ultra Portable Tripod/Mast System

Single Mast, Unlimited Configurations Tactical and Commercial Communications, Video Surveillance and Wireless Data Configurations

APPLICATIONS

Border Armored UGV Targeting Radar **Comms mast**

QUALIFIED TO **MIL-STD-810G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	WEIGHT
1.110 mm	3.300 mm	50 kg	120 km/h	20,4 kg

MAIN FEATURES

Portable Mast to 15 m

Nodes are added through the crane arm on the tripod body, taking the mast from **1110 mm** nested to **15 m** extended.

One-Person Deployment

From **19 kg** for mast and tripod together, deployed by a single operator in 5 to 30 minutes depending on section count.

STANDARD CONFIGURATION

MMT10-X3-3300 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**50 kg**
Weight	**20,4 kg**
Reverse Drive	**Available**
Reverse Drive Type	**Self-locking**
Deployment Time	**5-30 min**
Wind Load	**120 km/h**
Actuating Mechanism	**Manual**
Drive Type	**Push or Cable Driven**
Extended Height	**3.300 mm**

MECHANICAL DATA	
Retracted Height	**1.110 mm**
Base Diameter	**1.760 mm**
Material – Main Body	**Aluminum 6061-T6**
Number of Sections	**3**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 66**

PART NUMBER	**MMT10 – [mast size] – [options]** · 15 build combinations
STEP 1 · MAST SIZE	15 codes · Number of Sections 2-16 · Extended Height 2.395-15.065 mm · Rated Payload 11-53 kg
OPTIONS	**SCGK** Secondary Guy Kit **TRGK** Tertiary Guy Kit **LPEK** Lightning Protection and Earthing Kit **IFPS** Frost Protection Sleeve **LG##** Label Language



MMT20

Heavy Duty Portable Tripod/Mast System

Portable, Heavy-Duty Mast With Crane-Assisted Height Expansion for Tactical and Commercial Communications, Video Surveillance and Wireless Data Configurations

APPLICATIONS

Border Armored UGV Targeting Radar **Comms mast**

QUALIFIED TO **MIL-STD-810G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	WEIGHT
1.400 mm	8.020 mm	70 kg	120 km/h	56,6 kg

MAIN FEATURES

Heavy Payload, Still Portable

Up to **95 kg** rated payload from a **34,1 kg** mast and tripod, expandable to **15 m** by crane-assisted nodes.

Rapid Tactical Deployment

The same one-person deployment method as the MMT10, on a reinforced body sized for heavy-class payloads.

STANDARD CONFIGURATION

MMT20-Y8-8020 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Rated Payload	**70 kg**
Weight	**56,6 kg**
Reverse Drive	**Available**
Reverse Drive Type	**Self-locking**
Deployment Time	**5-30 min**
Wind Load	**120 km/h**
Actuating Mechanism	**Manual**
Drive Type	**Push or Cable Driven**
Extended Height	**8.020 mm**

MECHANICAL DATA	
Retracted Height	**1.400 mm**
Base Diameter	**2.450 mm**
Material – Main Body	**Aluminum 6061-T6**
Number of Sections	**8**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 73**

PART NUMBER	**MMT20 – [mast size] – [options]** · 13 build combinations
STEP 1 · MAST SIZE	13 codes · Number of Sections 3-15 · Extended Height 2.720-15.440 mm · Rated Payload 35-95 kg
OPTIONS	**SCGK** Secondary Guy Kit **TRGK** Tertiary Guy Kit **SWRK** Steel Wire Rope and Tensioning Kit **SGRK** Stake Group Kit **ANBK** Anchor Bolt Kit **LPEK** Lightning Protection and Earthing Kit **IFPS** Frost Protection Sleeve **LG##** Label Language



MMW10

Telescopic Winch-Type Manual Mast System

High performance-to-weight ratio manual mast with a wide configuration range for electro-optical imaging, radar and communication tasks

APPLICATIONS

Border Armored UGV Targeting **Radar** **Comms mast**

QUALIFIED TO **MIL-STD-810G**

RETRACTED	EXTENDED	RATED PAYLOAD	WIND LOAD	DEPLOYMENT TIME	WEIGHT
1.310 mm	2.500 mm	50 kg	120 km/h	5 min	25 kg

MAIN FEATURES

Winch-Deployed Manual Mast

A winch arm on the tripod body extends all mast sections synchronously — **2500 mm** of height and **50 kg** of payload from a **25 kg** system, with no power supply.

Very Low Stowed Height

Telescopic tripod legs bring the whole system down to **1310 mm** stowed, which is what lets a **50 kg**-class mast travel inside a vehicle.

STANDARD CONFIGURATION

MMW10-1310-2500-0050 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Wind Load	**120 km/h**
Retracted Height	**1.310 mm**
Extended Height	**2.500 mm**
Rated Payload	**50 kg**
Weight	**25 kg**
Opening Time	**60 s**
Deployment Time	**5 min**
Actuating Mechanism	**Manual**
Drive Type	**Winch Arm with Locking Mechanism**

MECHANICAL DATA	
Section Width	**98 mm**
Number of Sections	**3**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 80**

PART NUMBER	**MMW10 – [mast size] – [options]** · 1 build combination
OPTIONS	**LPEK** Lightning Protection and Earthing Kit **SPPC** Spiral Payload Cable **HEX1** Height Extender **IFPS** Frost Protection Sleeve **LG##** Label Language



TML10

Ultra Lightweight Tripod

Lightweight, Stable and Rugged High-Performance Tripod for Military Observation and Border Surveillance, Handheld Sensors with Manual or Motorized Pan/Tilt Heads

APPLICATIONS

Border · Armored · UGV · **Targeting** · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G**

EXTENDED	RETRACTED	RATED PAYLOAD	MIN. WORKING HEIGHT	WEIGHT
1.450 mm	600 mm	25 kg	150 mm	2,50 kg

MAIN FEATURES

Zero Clearance Construction

There is no clearance between any of the mechanical components. Very high resolution optics sit on the tripod and stay where they were pointed.

2,5 kg Carrying 25 kg

An ultra-lightweight Aluminum 6061-T6 tripod that still carries **25 kg**, with independently adjustable leg angles and lengths.

STANDARD CONFIGURATION

TML10-0600-1450-0025 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Extended Height	**1.450 mm**
Retracted Height	**600 mm**
Rated Payload	**25 kg**
Foot Type	**Flatfoot**
Minimum Working Height	**150 mm**
Weight	**2,50 kg**

MECHANICAL DATA	
Extended Radius	**600 mm**
Retracted Diameter	**150 mm**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 84**

PART NUMBER	**TML10 – [tripod size] – [options]** · 2 build combinations
STEP 1 · TRIPOD SIZE	2 codes · Retracted Height 585-600 mm · Extended Height 975-1.450 mm · Rated Payload 25-35 kg
OPTIONS	**FTCL** Foot Type **FTSP** Foot Type **FTBL** Foot Type **PCBG** Padded Carry Bag **LG##** Label Language



TMM10

Medium Duty Tripod

Payload Capacity up to 60 kg with superb torsional stability for Tactical Radar, Reconnaissance Optics and Battlefield Communication Systems

APPLICATIONS

Border · Armored · UGV · Targeting · Radar · Comms mast

QUALIFIED TO **MIL-STD-810G**

EXTENDED	RETRACTED	RATED PAYLOAD	EXTENDED RADIUS	WEIGHT
1.266 mm	637 mm	40 kg	875 mm	5,2 kg

MAIN FEATURES

Zero Clearance at 40 kg

No clearance between any of the mechanical components, so a **40 kg** radar or reconnaissance optic holds its bearing without drift.

Thick-Walled Anodized Construction

Aluminum 6061-T6 tubes with stainless steel AISI 316 hardware. **5,2 kg**, three sections, **875 mm** extended radius.

STANDARD CONFIGURATION

TMM10-0637-1266-0040 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Extended Height	**1.266 mm**
Retracted Height	**637 mm**
Rated Payload	**40 kg**
Foot Type	**Flatfoot**
Weight	**5,2 kg**

MECHANICAL DATA	
Extended Radius	**875 mm**
Material – Main Body	**Aluminum 6061-T6**
Number of Sections	**3**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 88**

PART NUMBER	**TMM10 – [tripod size] – [options]** · 2 build combinations
STEP 1 · TRIPOD SIZE	2 codes · Retracted Height 588-637 mm · Extended Height 864-1.266 mm · Rated Payload 40-60 kg
OPTIONS	**FTCL** Foot Type **FTSP** Foot Type **FTBL** Foot Type **PCBG** Padded Carry Bag **LG##** Label Language



TMH10

Heavy Duty Tripod

Payload Capacity up to 150 kg with Rigid, Stable and V Design Architecture for Long-Range Thermal Imaging Devices, Sensor Arrays and Surveillance Radars

APPLICATIONS

Border · Armored · UGV · **Targeting** · **Radar** · Comms mast

QUALIFIED TO **MIL-STD-810G**

EXTENDED	RETRACTED	RATED PAYLOAD	MIN. WORKING HEIGHT	WEIGHT
995 mm	725 mm	150 kg	640 mm	14,7 kg

MAIN FEATURES

150 kg on a Zero-Clearance Base

No clearance between any of the mechanical components, carrying long-range thermal imagers, sensor arrays and surveillance radars up to **150 kg**.

V Architecture for Off-Center Loads

The V mechanical design and **685 mm** extended radius balance payloads whose center of gravity sits well off the tripod axis.

STANDARD CONFIGURATION

TMH10-0725-0995-0150 · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Extended Height	**995 mm**
Retracted Height	**725 mm**
Rated Payload	**150 kg**
Foot Type	**Flatfoot**
Minimum Working Height	**640 mm**
Weight	**14,7 kg**

MECHANICAL DATA	
Extended Radius	**685 mm**
Retracted Diameter	**280 mm**
Material – Main Body	**Aluminum 6061-T6**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 92**

PART NUMBER	**TMH10 – [tripod size] – [options]** · 2 build combinations
STEP 1 · TRIPOD SIZE	2 codes · Retracted Height 725-1.055 mm · Extended Height 995-1.250 mm · Rated Payload 150 kg
OPTIONS	**FTCL** Foot Type **FTSP** Foot Type **FTBL** Foot Type **PCBG** Padded Carry Bag **LG##** Label Language



ACP20

Portable Climatic Rack Cabin

Protective Equipment Cases for housing and transporting of Electronic Equipment

APPLICATIONS

Border Armored UGV Targeting Radar **Comms mast**

SHOWN AT SAHA 2026, with a 19-inch rack fit-out

QUALIFIED TO **MIL-STD-810G · MIL-STD-461G**

CABIN HEIGHT	CHASSIS DEPTH	COOLING CAPACITY	MAINS VOLTAGE	MAINS FREQUENCY
10U	610 mm	1.500 W	220 VAC	50 Hz

MAIN FEATURES

Climate-Controlled Rack in a Transit Case

A vapor-compression cooling system of up to **1500 W**, with optional **750 W** or **1500 W** heater mats, keeps electronics inside their operating range in the field.

Shielded and Sealed

Conductive gaskets, wire mesh braid, embedded wire and a Faraday cage give EMI/EMC shielding, in a case qualified to MIL-STD-810G.

STANDARD CONFIGURATION

ACP20-10U-610-WDLY · Tolerance **±5 %**

PERFORMANCE PARAMETERS	
Locking Mechanism	**Butterfly Latch**
EMI/EMC Shielding	**Available**
Cooling Capacity	**1.500 W**
Cooling Type	**Vapor Compression Cycle**

ELECTRICAL & INTERFACE	
Mains Voltage	**220 VAC**
Mains Frequency	**50 Hz**
MECHANICAL DATA	
Wheel Type	**Wheel Dolly**

HOW TO ORDER

Every step, option and test: **Product Catalog, page 96**

PART NUMBER	**ACP20 – [cabin height] – [chassis depth] – [wheels] – [options]** · 30 build combinations
STEP 1 · CABIN HEIGHT	5 codes · Cabin Height 8U-18U
STEP 2 · CHASSIS DEPTH	3 codes · Chassis Depth 610-870 mm
STEP 3 · WHEEL OPTION	2 codes
OPTIONS	**ACVC** Air Conditioning **EMIP** EMI/EMC Protection **H075** Heating Power **H150** Heating Power **PRVL** Pressure Relief Valve **STPH** Stowage Pouch **MCNS** Mechanical Connection Set **DLYK** Four Wheel Dolly **CNPL** Connector Panel **CNPE** Connector Panel, EMI Filtered **SHTR** Support Shelf **LBST** Label Set **EMGS** EMI Gasket **PTBG** Paint **PTMG** Paint **PTGR** Paint **LG##** Label Language