MOBA
MOBILE AUTOMATION

COMPONENTS PORTFOLIO

From positioning and slope sensors to displays, controllers, and GNSS modules – MOBA's modular portfolio is built for precision, durability, and seamless integration into a variety of machine systems. With flexible interfaces and proven technology, these components enable reliable automation across diverse applications.

MOBA COMPONENTS FOR OEM AND SYSTEM INTEGRATORS

CONTENT

POSITIONING SENSORS

POSITION YOUR BUSINESS AND MACHINES FOR SUCCESS AND PRECISION

MOBA's sensors continuously detect the position, inclination, and movement of machines or attachments in real time. By precisely determining position and orientation, they provide the basis for automated control systems, making a significant contribution to process reliability, efficiency, and repeatability.

Positioning sensors are vital in mobile applications, such as controlling leveling systems in road construction and aligning booms in construction machinery. MOBA's robust sensors, designed for harsh environments, provide a secure and durable solution that can be easily integrated into OEM systems.

COMPACTION ACCELERATION SENSOR

COMPACTION SENSOR

The MAS-180 is a compact and robust sensor for recording and analyzing compaction processes – primarily developed for use in soil and asphalt compaction.

» Accurate measurement of frequency, amplitude, and compaction value
» Ideal for real-time compaction monitoring and quality control
» Measurement range: Up to 18G (standard), optionally expandable to approx. 25G when mounted at a 45° angle

Option: J1939 optionally available (with additional development effort)

Technical data	
Voltage range	8 ... 32 V DC
Current consumption	0,03A @ 24V
Weight:	0.3kg
Size (LxWxH)	116 x 78 x 27 mm
Ingress protection	IP 67
Storage temperature range	- 40 ... + 85 °C
Measuring range — frequency	100 kHz
Resolution	0,01g
Linearity	±0,2% of final value @25°C

CAN

Name	Article number	Measuring range	Plugs	Interfaces
MAS-180	04-21-20700-A01	-18g... +18g	5 pin binder M12, male (CAN IN), 5 pin binder M12, female (CAN OUT)	MOBA CAN, 250kB, Adr.0

HIGH-PRECISION IMU

DYNAMIC STABILITY & KINEMATIC SENSOR

The MOBA IMU-6 is a high-precision inertial sensor that detects movement and orientation across six degrees of freedom (6-DoF) – ideal for mobile machinery and automation systems.

» Simultaneous detection of acceleration and rotation in all spatial axes
» Dynamic accuracy below 0.5°, even under harsh conditions
» Measurement range up to ±8g for demanding applications
» Integrated 3-axis gyroscopes (3× 360°) for continuous orientation tracking
» Compact and rugged design for mobile and industrial environments

Technical data	
Name	MOBA IMU-6
Article number	04-21-23000
Inclination measuring range	3x 360°
Inclination accuracy	Static: 0,1° Dynamic: <0,5°
Acceleration measuring range	± 4 g (8 g)
Shock-Survival	> 20g
Acceleration Resolution	min. 1 mg
Rotation rate Resolution	0,01°/s
BIAS drift	<1,0°/h
Size (LxWxH)	116 x 78 x 27 mm
Temperature range	- 40 ... + 85°C
Power requirements voltage	9 Vdc - 36 Vdc

Name	Article number	Rotation rate measuring range	Plugs	Protocoll
IMU-6	04-21-23000	-250°... +250°	5 pin binder M12, male (CAN IN), 5 pin binder M12, female (CAN OUT)	J1939, CANopen, MOBA CAN

DISTANCE MEASUREMENT MODULE

PRECISION MEETS FUNCTIONAL SAFETY

The DSM-500 is a dual ultrasonic measurement system designed for reliable distance detection with integrated safety functionality.

» Master-slave sensor setup with alternating transmit/receive function
» High-precision ultrasonic distance measurement
» Certified according to DIN EN ISO 13849 PL d
» Suitable for safety-relevant applications in mobile machinery

Technical data	
Name	DSM-500 Master
Article number	04-21-10150
Voltage range	9 ... 30 V DC
Current consumptioin	< 150 mA
Ingress protection rating	IP 67
Measuring range	0.05 ... 5 m
Operating temperature range	- 20°...+ 70°C
Storage temperature range	- 40°...+ 80°C
Resolution	5 mm
Size (LxWxH)	99 x 71 x 68 mm
Output signal	2x CANopen

Name	Article number	Connectors	Remark
DSM-500 Slave	04-21-10160	1x M12 5-pin 1x M12 8-pin	System consists of master and slave.
DSM-500 Slave	04-21-10170	1x M12 8-pin	System consists of master and slave.

REDUNDANT MOMENT-COMPENSATED LOAD CELL

RELIABLE WEIGHING WITH BUILT-IN SAFETY

The MRW 500 is a redundant load cell with moment compensation for accurate and safe weight detection in mobile applications.

» Moment compensated redundant load cell
» Load cell meets the requirements of EN13849-1 PL d
» Cable: 5m, open end

Additional varations of request

Technical data	
Operating voltage	8.5...32 V DC
Weight	4.6 kg
Size (LxWxH)	176 x 80 x 130 mm
Ingress protection	IP 67
Material	AlZnMgCu1.5, F53
Operating temperature range	- 30°...+ 70°C
Storage temperatur range	- 40°...+ 80°C
Connection cable	1 x 5 m, 8 x 0.22 mm² (open)

Name	Article number	Interface	Rated Cabacity	Isolation (1KV)
MRW 1000 Limit insulated	04-04-00530	Safety Switch	1000kg	yes
MRW 1000 Limit non insulated	04-04-00535	Safety Switch	1000kg	no
MRW 500 insulated	04-04-00515	4-20mA	500 kg	yes
MRW 500 non insulated	04-04-00516	4-20mA	500 kg	no
MRW 1000 insulated	04-04-00510	4-20mA	1000kg	yes
MRW 1000 non insulated	04-04-00511	4-20mA	1000kg	no
MRW CAN insulated	04-04-00590	CAN	1000kg	yes
MRW CAN non insulated	04-04-00595	CAN	1000kg	no

HEAVY-DUTY MOMENT-COMPENSATED LOAD CELL

RELIABLE WEIGHING FOR LARGE PLATFORMS

The MRW-XL is a robust and redundant load cell designed for larger aerial work platforms, offering precise weight detection up to 1000 kg.

» Moment compensation for accurate load measurement under off-axis forces
» For bigger aerial work platforms
» Load cell meets the requirements of EN13849-1 PL d
» Cable: 5m, open end

Additional varations of request

Technical data	
Operating voltage	8.5...32 V DC
Weight	7.5 kg
Size (LxWxH)	196 x 102 x 116 mm
Ingress protection	IP 67
Material	AlZnMgCu1.5, F53
Operating temperature range	- 30°...+ 70°C
Storage temperatur range	- 40°...+ 80°C
Connection cable	1 x 5 m, 8 x 0.22 mm² (open)

Name	Article number	Interface	Rated Cabacity	Isolation (1KV)
MRW XL 1000 insulated	04-04-01510	4-20mA	1000kg	yes
MRW XL 1000 non insulated	04-04-01511	4-20mA	1000kg	no
MRW XL CAN insulated	04-04-01590	CAN	1000kg	yes
MRW XL CAN non insulated	04-04-01595	CAN	1000kg	no

MECHANICAL SENSORS

RELIABLE MOTION MEASUREMENT FOR DEMANDING APPLICATIONS

Mechanical sensors from MOBA convert rotary or linear motion into precise measurement data for control and monitoring systems. Whether using rotary, angular, or wire rope sensors, they deliver accurate position feedback that is essential for safe and efficient machine operation.

Built to withstand harsh conditions, these sensors ensure long-term performance and reliability in mobile machinery, from construction to industrial applications.

WIRE ROPE SENSOR

ROBUST HEIGHT DETECTION MADE SIMPLE

This wire rope sensor offers high-precision height measurement for side plates and other movable parts in harsh working environments.

» Accurate height detection via wire rope mechanism
» Designed for rugged, outdoor use on heavy equipment
» User-serviceable design for fast and simple maintenance
» Ideal for determining the height of screed side plates

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	100 mA
Weight	1.3 kg
Ingress protection	IP 67
Operating temperature range	- 25 … + 70 °C
Storage temperature range	- 40 … + 80 °C
Resolution	0.1 mm
Repeatability	± 0,25 mm
Linearity error	± 0,1 % (full-scale reading)

CAN

Name	Article number	Measuring range	Plugs	Interfaces
ROPS-0900	04-21-30070	0 … 900 mm	7-pin plug, left (Bayonet connection)	CAN: 1x ISO 11898, 24 V, 125 kBit/s,

ROTATION SENSOR

Technical data	
Operating voltage	5 … 8 V DC
Current consumption	< 65 mA
Weight	approx. 350 g
Size (LxWxH)	69.5 x 54 x 50 mm
Ingress protection	IP 67
Operating temperature range	- 40 … + 80 °C
Storage temperature range	- 40 … + 80 °C
Reproducibility	± 0.1°

ACCURATE DRILLING DEPTH DETECTION

The Rotary Position Sensor uses a wear-resistant encoder to convert rotational motion into linear values, ideal for applications such as drill depth measurement.

» 0–360° rotation range with high-resolution output
» Converts rotary motion into calibrated linear displacement
» Initial calibration defines scaling factor for target application
» Durable, wear-resistant encoder for long service life

Name	Article number	Measuring Range	Plug	Output
MRS-305	04-20-40030	0° ... 360°	Male connector 5-pin M12	PWM

SPRING-LOADED ROTARY POSITION SENSOR

SELF-RETURNING SENSOR FOR DRILL DEPTH MONITORING

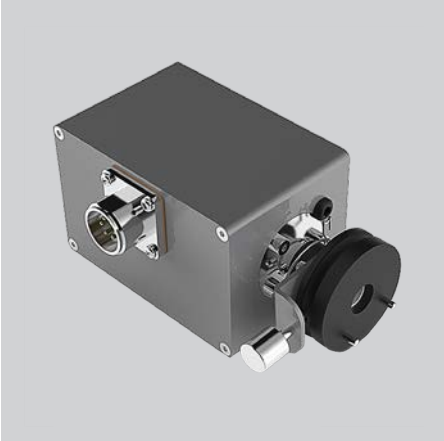
This rotary position sensor features a built-in hub and spring mechanism, enabling automatic return movement and accurate drill depth measurement in dynamic applications.

» 0–360° wear-resistant encoder for precise rotation detection
» Converts rotational motion into linear displacement via calibration
» Integrated spring ensures self-resetting to initial position
» Ideal for measuring drill depth or borehole progression in rugged environments

Technical data	
Operating voltage	4.8 … 8 V DC
Current consumption	25 mA
Weight	900 g
Size (LxWxH)	65 x 132 x 110 mm
Ingress protection	IP 67
Operating temperature range	- 40 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Reproducibility	± 0.5°
Max. temperature drift	± 1.5°
Resolution	± 0.1°
Linearity	± 1°

Name	Article number	Measuring Range	Plug	Output signal
Spring-loaded Rotary Sensor	04-10-00042	-30°... +30°	6-pin plug; screwed connection)	Vout = 0,0083 x Vcc/°

ANALOGUE ROTARY SENSOR WITH FORWARD TORSION SPRING



SPRING-LOADED SENSOR FOR LINEAR MOTION DETECTION

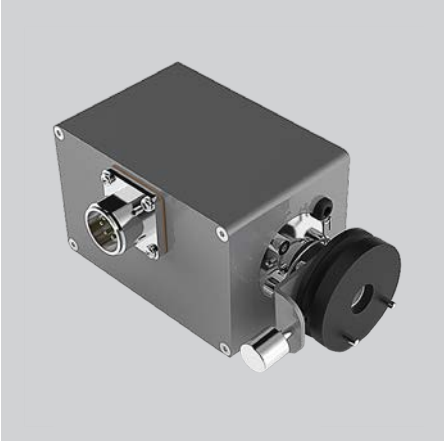
This analog rotary sensor with forward torsion spring translates rotational movement into linear values, making it ideal for measuring drill hole size or depth.

» ± 30° range with wear-resistant encoder
» Converts rotary motion to linear output via calibration
» Analog signal output for simple system integration
» Forward torsion spring ensures consistent return movement
» Durable and reliable for long-term construction application

Technical data	
Operating voltage	4.8 … 8 V DC
Current consumption	25 mA
Weight	900 g
Size (LxWxH)	65 x 132 x 110 mm
Ingress protection	IP 67
Operating temperature range	- 40 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Reproducibility	± 0.5°
Max. temperature drift	± 1.5°
Resolution	± 0.1°
Linearity	± 1°

Name	Article number	Measuring Range	Plug	Output signal
Analogue Rotary Sensor	05-10-50042	-30°... +30°	6-pin plug; screwed connection)	Vout = 0,0083 x Vcc/°

ANALOGUE ROTARY SENSOR WITH REVERSE TORSION SPRING



RELIABLE RETURN MOVEMENT IN REVERSE CONFIGURATION

This analog rotary sensor with a reverse torsion spring converts rotational motion into a calibrated linear signal, ideal for depth measurement in compact or reversed mounting setups.

» ± 30° range with a reverse spring hub assembly ensuring precise performance in construction environments
» Analog output for straightforward integration
» Designed for accurate drill hole or bore depth detection

Technical data	
Operating voltage	4.8 … 8 V DC
Current consumption	25 mA
Weight	900 g
Size (LxWxH)	65 x 132 x 110 mm
Ingress protection	IP 67
Operating temperature range	- 40 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Reproducibility	± 0.5°
Max. temperature drift	± 1.5°
Resolution	± 0.1°
Linearity	± 1°

Name	Article number	Measuring Range	Plug	Output signal
Analogue Rotary Sensor	05-10-50043	-30°... +30°	6-pin plug; screwed connection)	Vout = 0,0083 x Vcc/°

SLOPE / INCLINATION SENSORS

PRECISE SLOPE MEASUREMENT FOR MACHINE SAFETY

Measure static inclination angles to the center of the Earth wherever the exact alignment of machines and components is crucial for safety or functionality, such as for stabilizing cranes and mobile working platforms, as well as for precise leveling in road construction.

The inclination sensors from MOBA impress with maximum measuring accuracy and have been specially developed for use in harsh environments, offering shock resistance, temperature resistance, and long-term stability, even in outdoor applications. This robustness ensures that our sensors continue to perform optimally, even in the most challenging conditions.

DUAL-AXIS INCLINATION SENSOR

COMPACT TILT DETECTION

The MSS is a compact, 2-axis slope sensor with CAN interface and infrared zeroing for easy and precise tilt detection in mobile systems.

» Measures slope on two axes up to ± 60°
» CAN interface with IN/OUT daisy-chaining for flexible integration
» Infrared-based zero adjustment – no need to open housing
» Ultra-flat and rugged design for tight installation spaces

Technical data	
Voltage range	8...32 V DC
Current consumption	0.03 A @ 24 V
Axis	2
Zero point accuracy (25°C)	± 0.1°
Zero point accuracy (-40...+85°C) typical drift	± 0.0075°/K
Zero point accuracy (-40...+85°C) max. drift	± 0.02°/K
Linearity (25° C)	± 0.05°
Resolution	0.02°
Cut-off frequency	0.9 Hz
Ingress protection rating	IP 67
Insulation voltage	3 kV DC
Operating temperature range	- 40°...+ 85°C
Storage temperatur range	- 40°...+ 85°C
Size (LxWxH)	70 x 80 x 35 mm
Weight	0.2 kg

Name	Article number	X-/Y-axis measuring range	Plugs	Interfaces
MSS-322	04-21-20430	-60°... +60°	5 pin binder M12, male (CAN IN), 5 pin binder M12, female (CAN OUT)	Simple bus lead via CAN IN/OUT wiring principle, CANopen communication in compliance with spec. CIA DS 301

SINGLE-AXIS INCLINATION SENSOR

COMPACT TILT DETECTION

Compact slope sensor based on accelerometer technology for precise inclination measurement. Delivers reliable results for standard machine control applications.

Technical data	
Voltage range	8...32 V DC
Axis	1
Zero point accuracy (25°C)	± 0.1°
Zero point accuracy (-40...+85°C) typical drift	± 0.0075°/K
Zero point accuracy (-40...+85°C) max. drift	± 0.02°/K
Cut-off frequency	0.9 Hz
Ingress protection rating	IP 67
Insulation voltage	3 kV DC
Operating temperature range	- 40°...+ 85°C
Storage temperatur range	- 40°...+ 85°C
Size (LxWxH)	70 x 80 x 35 mm
Weight	0.2 kg
Plugs	5 pin binder M12, male (CAN), 5 pin binder M12, female

CANopen

Name	Article number	Current consumption	Measuring range	Resolution	Linearity (25° C)	Interfaces
MSS-505	04-30-00250	0.07 A @ 13.8 V	-15°...+15°	0.05°	± 0.01°	Safety switch (S1/S2) closed ≥ 8.5°, indicator switch (K1/K2) K1closed ≥ +3.0° K2 closed ≤ -3.0°
MSS-515	04-21-20420	0.05 A @ 24 V	-15°...+15°	0.02°	± 0.05°	Safety switch (S1/S2) closed ≤ 8.5°, CANopen communication in compliance with spec. CIA DS 301
MSS-517	04-21-20422	0.05 A @ 24 V	-45°...+45°	0.02°	± 0.05°	Simple bus lead via CAN IN/OUT wiring principle, CANopen communication in compliance with spec. CIA DS 301

MSS INCLINATION SENSOR

COMPACT TILT DETECTION

Compact slope sensor based on accelerometer technology for precise inclination measurement. Delivers reliable results for standard machine control applications.

Technical data	
Voltage range	8...32 V DC
Current consumption	0.05 A @ 24 V
Zero point accuracy (25°C)	± 0.1°
Resolution	0.02°
Cut-off frequency	0.9 Hz
Ingress protection rating	IP 67
Insulation voltage	3 kV DC
Operating temperature range	- 40°...+ 85°C
Storage temperatur range	- 40°...+ 85°C
Size (LxWxH)	70 x 80 x 35 mm
Weight	0.2 kg

Name	Article number	Measuring range	Plug (5pin binder M12)	Axis	Offset Drift, typ.	Offset Drift, max.	Linearity (25° C)	Temperature compensated
1 Channel								
MSS-620	04-21-20444	-30°...+30°	male (CAN IN), female (CAN OUT)	2	± 0.002°/K	± 0.004°/K	± 0.05°	Yes
2 Channels (CAN IN/OUT)								
MSS-520	04-21-20440	-30°...+30°	male (CAN IN), female (CAN OUT)	2	± 0.0075°/K	± 0.02°/K	± 0.05°	No
MSS-720	04-21-20442	-30°...+30°	male (CAN IN), female (CAN OUT)	2	± 0.002°/K	± 0.004°/K	± 0.05°	Yes
MSS-530	04-21-20450	-180°...+180°	male (CAN IN), female (CAN OUT)	1	± 0.1°/K	± 0.03°/K	± 0.2°	No
MSS-730	04-21-20452	-180°...+180°	male (CAN IN), female (CAN OUT)	1	± 0.003°/K	± 0.006°/K	± 0.2°	Yes
2 Channel (Seperate CAN Bus Wiring)								
MSS-521	04-21-20441	-30°...+30°	male (CAN IN), female (CAN OUT)	2	± 0.0075°/K	± 0.02°/K	± 0.05°	No
MSS-721	04-21-20443	-30°...+30°	male (CAN 1), male (CAN 2)	2	± 0.002°/K	± 0.004°/K	± 0.05°	Yes
MSS-531	04-21-20451	-180°...+180°	male (CAN 1), male (CAN 2)	1	± 0.1°/K	± 0.03°/K	± 0.2°	No
MSS-731	04-21-20453	-180°...+180°	male (CAN 1), male (CAN 2)	1	± 0.003°/K	± 0.006°/K	± 0.2°	Yes

MSS HYBRID INCLINATION SENSOR

COMPACT TILT DETECTION

Advanced hybrid slope sensor combining MEMS and convection-based measurement. Two independent measurement principles ensure maximum precision and vibration immunity, with results fused in the controller.

Technical data	
Voltage range	8...32 V DC
Resolution	0.1°
Cut-off frequency	0.9 Hz
Ingress protection rating	IP 67
Insulation voltage	3 kV DC
Operating temperature range	- 40°...+ 85°C
Storage temperatur range	- 40°...+ 85°C
Size (LxWxH)	70 x 80 x 35 mm
Weight	0.2 kg

CANopen

2-Axis								
Name	**Article number**	**Measuring range**	**Plug (5pin binder M12)**	**Offset Drift, typ.**	**Offset Drift, max.**	**Sensitivity error, typ**	**Cross axis error, max**	**Current consumtion**
1 Channel								
MSSH-620	04-21-22000	-30°...+30°	male (CAN IN), female (CAN OUT)	± 0.002°/K	± 0.004°/K	± 0.5 % of reading	± 0.5 % of reading	0.03 A @ 24 V
2 Channels								
MSSH-720	04-21-22050	-30°...+30°	male (CAN IN), female (CAN OUT)	± 0.002°/K	± 0.004°/K	± 0.5 % of reading	± 0.5 % of reading	0.05 A @ 24 V
MSSH-721	04-21-22075	-30°...+30°	male (CAN 1), male (CAN 2)	± 0.002°/K	± 0.004°/K	± 0.5 % of reading	± 0.5 % of reading	0.05 A @ 24 V

1-Axis								
Name	**Article number**	**Measuring range**	**Plug (5pin binder M12)**	**Offset Drift, typ.**	**Offset Drift, max.**	**Nonlinearity, typ**	**Nonlinearity, max**	**Current consumtion**
1 Channel								
MSSH-630	04-21-22025	-180°... +180°	male (CAN IN), female (CAN OUT)	± 0.003°/K	± 0.006°/K	± 0.2	± 0.5	0.03 A @ 24 V
2 Channels								
MSSH-730	04-21-22100	-180°... +180°	male (CAN IN), female (CAN OUT)	± 0.003°/K	± 0.006°/K	± 0.2	± 0.5	0.05 A @ 24 V
MSSH-731	04-21-22125	-180°... +180°	male (CAN 1), male (CAN 2)	± 0.003°/K	± 0.006°/K	± 0.2	± 0.5	0.05 A @ 24 V

REDUNDANT DUAL AXIS SLOPE SENSOR

FAIL-SAFE TILT SENSOR WITH CAN INTERFACE

The MSSR-620 is a robust dual-axis slope sensor with redundant measurement channels and CANopen interface, ideal for safety-relevant applications.

» Dual-axis inclination measurement with ±30° range
» Redundant output channels for high reliability
» Simple CAN In/Out wiring for easy integration
» High resolution (0.01°) and zero-point accuracy of ±0.1°
» Rugged IP67 housing, designed for harsh environments

Technical data	
Operating voltage	8 … 32 V DC
Current consumption	30 mA (24 V)
Insulation voltage	3 kV
Size (LxWxH)	116 x 78 x 27 mm
Weight	0.3 kg
Ingress protection	IP 67
Material	GD AlSi10Mg(Fe); EN AC-43400
Operating temperature range	- 40 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Internal resolution	0.01°
Linearity	± 0.05° (25 °C)
Zero point accuracy	± 0.1° (-10 … +40 °C)

CANopen

Name	Article number	Measuring range	Plugs	Interfaces
MSSR-620	04-21-20544	-30°... +30°	5 pin binder M12, male (CAN IN), 5 pin binder M12, female (CAN OUT)	CAN: CANopen CiA DS301 Baud rate: 250 Kbit/s

SLOPE SENSOR WITH GYRO COMPENSATION

TILT SENSOR WITH INTEGRATED GYRO

The G-Slope sensor is the next-generation version of our established tilt sensor. Its primary application is on asphalt pavers, though other machine types are also conceivable.

» Forced balance inclinometer
» Shock resistant, direct mount, rugged unit
» Extremely sensitive high accuracy measurement
» Virtual infinite resolution
» Compensation of lateral acceleration Increased inclination stability
» Faster response

Options:
Variants with different baud rates and protocols available on request

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	≤ 50 mA
Weight	1.9 kg
Size (LxWxH)	250 x 100 x 80 mm
Ingress protection	IP 67
Operating temperature range	- 25 … + 85 °C
Storage temperature range	- 25 … + 85 °C
Shock resistance	15 g, 15 ms (DIN EN 60068-2-29)
Internal resolution	0,01 % = 1 digit
Zero point stability	0,1 %

CAN

Name	Article number	Measuring range	Plugs	Interfaces
G-Slope	04-21-21020	-15°... +15°	7-pin plug (Bayonet connection)	1x ISO 11898, 24 V, 125 kBit/s

ANALOGUE SLOPE SENSOR

RELIABLE ANALOG TILT DETECTION

This analog slope sensor measures inclination on one axis and is ideal for simple levelling tasks, such as curb and gutter machines.

» ± 10 % slope measurement range for single-axis applications
» Analog output for straightforward integration
» Proven performance in curb and gutter automation
» Convenient online availability

Technical data	
Operating voltage	6 ... 8 V DC (+/- 5 %)
Current consumption	≤ 50 mA
Weight	1.2 kg
Size (LxWxH)	118 x 102 x 85 mm
Enclosure protection	IP 67
Operating temperature range	- 10 ... + 70 °C
Storage temperature range	- 25 ... + 80 °C
Accuracy	± 0.3 %
Max. cable length	20 m (shielded)

CAN

Name	Article number	Measuring range	Plugs	Output
Analog G-Slope	04-10-20016	-10... +10 %	6-pin male plug (screwed connection)	150 mV/% (beyond specified measuring range undefined)

DUAL CAN SLOPE SENSOR

DIGITAL TILT SENSING FOR PAVING MACHINES

The dual-slope sensor from MOBA offers precise slope measurement for paving and milling applications. Also compatible in concrete applications.

» Dual-axis tilt detection for precise levelling
» Features a 250k baud rate for seamless data transmission
» Multiaddress capability for diverse paving and milling needs
» Compact and rugged design for harsh jobsite conditions

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	40 mA @ 24 V
Weight	0.7 kg
Size (LxWxH)	152 x 65 x 67 mm
Enclosure protection	IP 67
Operating temperature range	- 40 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Accuracy	± 0.3 %
Max. cable length	20 m (shielded)
Linearity	± 0.02 °
Internal resolution	0.01 °
Zero point stability	± 0.1 °

Name	Article number	Measuring range	Plugs	Interface
CAN G-Slope	04-21-20019	2x -60... +60 %	7-pin male connector (bayonet connection)	CAN Interface: ISO 11898 – 24 V 250 kBits/sec

CAN SLOPE SENSOR WITH GYRO COMPENSATION

HIGH-ACCURACY TILT SENSING WITH DYNAMIC COMPENSATION

The CAN G-Slope is a dual-axis electrolytic tilt sensor with enhanced stability and acceleration compensation for precision levelling on concrete pavers and curb machines.

» Lateral acceleration compensation for improved signal stability
» High measurement accuracy with fast response
» Electrolytic sensing for long-term precision
» Rugged, shock-resistant housing for direct machine mounting

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	40 mA @ 24 V
Weight	1.3 kg
Size (LxWxH)	195 x 100 x 76 mm
Ingress protection	IP 67
Operating temperature range	- 40 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Accuracy	± 0.3 %
Linearity	± 0.02 °
Internal resolution	0.01 %

CAN

Name	Article number	Measuring range	Plugs	Interface
MGS-0600	04-21-20050	-60... +60 %	7-pin male connector (bayonet connection)	CAN Interface: ISO 11898 – 24 V 125 kBit/sec

INFRARED REMOTE CONTROL

EASY RECALIBRATION AT THE PRESS OF A BUTTON

This infrared remote enables quick and tool-free zero-point calibration for MSS sensors within an angle range of ± 2°.

» Wireless zero adjustment via infrared signal
» Compatible with all MSS sensor variants
» ± 2° absolute adjustment range
» Compact, handheld design for simple field use

Technical data	
Operating voltage	2.4 … 3.0 V DC
Current consumption	50 mA
Weight	approx. 65 g
Size (LxWxH)	96 x 47 x 25.6 mm
Ingress protection	IP 42
Operating temperature range	- 10 … + 50 °C
Storage temperature range	- 10 … + 50 °C
Batteries, 2 pieces	Type Micro AAA
Carrier frequency	38 kHz
Data protection	Plausibility, CRC 16

Name	Article number	Wave length	Angle of radiation	Range, dependent on receiver	Protocol
IRC-100	04-01-05010	950 nm	± 14°	30 cm	MOBA proprietary

ULTRASONIC SENSORS

PRECISION THAT PERFORMS UNDER THE HARSHEST CONDITIONS

Accurately measure distances and object positions using high--frequency sound waves, providing contactless, reliable, and independent measurements that are unaffected by light conditions or surface properties. An emitted pulse hits the target object and provides exact distance data in real time via the reflected echo.

Compared to optical systems, ultrasonic sensors remain fully operational even in dusty, dirty, wet, or dark conditions, making them ideal for robust outdoor use. Whether in height control during asphalt paving, distance measurement on mobile machines, or the positioning of attachments, they deliver precise measurement results. Our ultrasonic sensors are designed to provide accurate and reliable data, regardless of the environmental conditions.

SONIC-SKI PLUS

SMART ULTRASONIC SENSOR

The SONIC-SKI PLUS is a third-generation ultrasonic sensor designed for accurate ground or string line measurement – ideal for asphalt pavers and milling machines.

» Five ultrasonic transducers plus one compensation sensor for stable measurement
» Accurate detection even on hot surfaces like freshly laid asphalt
» Fully compatible with MOBA-MATIC and commonly used in paving and milling control systems
» Expandable into a BIG SONIC-SKI (with up to 4 sensors) for leveling over up to 13 m

Options:
Custom housing colors, baud rates, and protocol variants available for larger quantities

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	300 mA
Weight	2.1 kg
Ingress protection	IP 67
Operating temperature range	- 25 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Measuring range ground sensing	200 … 1500 mm
Measuring range string line sensing	200 … 1000 mm
Ultrasonic frequency	120 kHz
Ultrasonic beam width	14°
Linearity error	0.5 % (of full scale)
Temperature deviation	± 1 % (of reading)
Repeatability	± 1 mm

CAN

Name	Article number	Measuring range best results	Plugs	Interfaces
Sonic-Ski plus	04-21-10120	250 … 400 mm	7-pin plug (Bayonet connection)	1x ISO 11898, 24 V, 125 kBit/s

SUPER-SKI

HIGH-PRECISION NON-CONTACT LEVELLING

The Super-Ski is a sealed, non-contact ultrasonic sensor with extended range and optimized accuracy, ideal for continuous levelling reference in demanding paving environments.

» Powerful main beam for increased measuring range and improved accuracy
» Fully sealed sensor design for barrier-free, maintenance-free operation
» Automatic temperature compensation ensures consistent height reference
» Fast one-person installation and seam-less integration with MOBA-Matic II

Technical data	
Operating voltage	8 … 32 V DC
Power consumption	max. 8.5 W
Weight	9.8 kg
Ingress protection	IP 67
Operating temperature range	- 25 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Ultrasonic frequency	120 kHz
Ultrasonic beam width	± 7°
Linearity error	0.5 % (of full scale)
Temperature deviation	± 1 % (of reading)
Repeatability	± 1 mm

CAN

Name	Article number	Measuring range	Plugs	Interfaces
Super-Ski	04-21-10200	200 … 1400 mm	6-pin plug (Magnetic connection) 7-pin plug (Bayonet connection)	CAN: 1 x ISO 11898-2, 24 V Baud rate: 125 kBit/s (3) / 250 kBit/s (adjustable)

TEMPERATURE-COMPENSATED ULTRASONIC SENSOR

SINGLE ULTRASONIC SENSOR WITH TEMPERATURE COMPENSATION

The CSMT is a temperature-compensated ultrasonic sensor optimized for measuring on hot surfaces like asphalt – ideal for road construction environments.

» Specialized algorithm for accurate measurement on hot asphalt
» No averaging required – delivers stable single-point measurements
» Based on proven SONIC-SKI technology
» Robust and reliable under tough construction site conditions
» Fully compatible with MOBA-MATIC and the wider MOBA ecosystem

Options:
Customizable in terms of color, baud rate, and communication protocol

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	≤ 100 mA
Weight	1.2 kg
Ingress protection	IP 67
Operating temperature range	- 25 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Ultrasonic frequency	120 kHz
Ultrasonic beam width	14°
Linearity error	0.5 % (of full scale)
Temperature deviation	± 1 % (of reading)
Repeatability	± 1 mm

CAN

Name	Article number	Measuring range	Plugs	Interfaces
CSMT-300	04-21-10060	150 … 600 mm	7-pin plug (Bayonet connection)	1x ISO 11898, 24 V, 125 kBit/s

TEMPERATURE-COMPENSATED ULTRASONIC SENSOR

SINGLE ULTRASONIC SENSOR WITH TEMPERATURE COMPENSATION

The CSMS is a temperature-compensated ultrasonic sensor optimized for precise distance measurement on cold surfaces – ideal for use in road construction and PAVE-TM systems.

» No averaging required – delivers consistent single-point readings
» Part of the MOBA PAVE-TM system for layer thickness monitoring
» Based on proven SONIC-SKI technology platform
» Rugged design for reliable performance in harsh environments

Options:
Customizable in terms of color, baud rate, and communication protocol

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	≤ 100 mA
Weight	1.2 kg
Ingress protection	IP 67
Operating temperature range	- 25 … + 85 °C
Storage temperature range	- 40 … + 85 °C
Ultrasonic frequency	120 kHz
Ultrasonic beam width	14°
Linearity error	0.5 % (of full scale)
Temperature deviation	± 1 % (of reading)
Repeatability	± 1 mm

CAN

Name	Article number	Measuring range	Plugs	Interfaces
CSMS-1000	04-21-10050	150 … 1200 mm	7-pin plug (Bayonet connection)	1x ISO 11898, 24 V, 125 kBit/s

OPTICAL SENSORS

RELIABLE DETECTION USING LIGHT

MOBA's optical and thermal sensors operate with light, typically in the visible or infrared spectrum, and detect the presence, position, movement, or surface characteristics of objects without contact. They emit targeted light pulses and analyze the reflected signals to obtain precise information about the target object - quickly, without contact, and with high resolution. Depending on the functional principle (e.g., reflection, transmitted light, or triangulation method), they can measure distances, recognize surfaces, or precisely track movements.

This makes optical sensors ideal for applications that require detailed object detection. From thermal to laser, MOBA's sensors offer a wide range of applications across multiple industries.

EDGE-TRACKER

PRECISE TRACKING OF PAVING EDGES

The Edge-Tracker is a non-contact sensor for reliable edge detection and tracking in road construction, featuring integrated visual feedback and optional ground illumination.

» Detects and tracks typical edges without physical contact
» Built-in visualisation for clear operator feedback
» Selectable ground illumination improves usability in low-light conditions
» Proven performance across diverse paving environments

Technical data	
Operating voltage	9 ... 30 V DC
Nominal voltage	12 V / 24 V
Reverse polarity protection	yes
Current consumption	max. 400 mA (24 V)
Mounting method	locating pivot (MOBA mounting system)
Weight	3.6 kg
Ingress protection, electronic	IP 67
Ingress protection, housing	IP 55
Operating temperature range	- 25 °C ... + 50 °C
Storage temperature range	- 40 °C ... + 70 °C
Laser class	1
Field of view (FoV)	100°
Ground distance (mounting height)	0.6 ... 5.0 m
Max. mounting angle	50° (FoV/2)
Min. edge height	20 mm
Accuracy edge position	± 2 mm
Accuracy edge height	± 2 mm
Accuracy height to edge	± 2 mm
Accuracy height to ground	± 2 mm

CANopen

Name	Article number	Wavelength	Plugs	Interfaces
METL-100	04-21-61100	905 mm	7-pin plug (Bayonet connection) Address logic	CAN: ISO 11898-2; CANopen CIA 301 Bitrate: 250 kBit/s (default) Node ID: 84

WIDE-AREA TEMPERATURE SENSOR

SMART TEMPERATURE MEASUREMENT

This sensor is designed for surface temperature measurement during asphalt paving. Using its three sensing elements, it scans a line up to 13 m wide from a mounting height of 4 m. While primarily intended for mobile construction machinery, it can also be applied to a variety of other industrial processes.

» Automatic edge detection (hot/cold)
» Smart average temperature calculation
» Fine measuring grid: 10 × 10 cm
» Calibratable for consistent measurement

Options:
Customizable in terms of baud rate and communication protocol.

Technical data	
Operating voltage	9 … 32 V DC
Current consumption	max. 100 mA
Weight	1.1 kg
Ingress protection	IP 67
Operating temperature range	- 10 °C … + 70 °C
Storage temperature range	- 20 °C … + 80 °C
Accuracy	± 2 % or ± 2 K
Measuring resolution	0.1 K
Repeatability	± 0.5 % or ± 0.5 K
Field of view (FoV)	120°
Measuring frequency	4 Hz
Measuring points	1 ... 130
Measuring point size	10 x 10 cm
Measuring distance	1.5 ... 5 m
Emission factor	0.95
Spectral range	8 ... 14 µm

CANopen

Name	Article number	Temperature measuring range	Plugs	Interfaces
MTPA-300	04-21-60010	0 ... 280 °C	10 pin male plug, bayonet connection Address logic	CAN: ISO 11898-2, CANopen CIA 301 Bitrate: 250 kBit /s Node ID: 88

LINE-READER

REFERENCE LINE SENSOR

The LINE-READER is the specialist for tight spaces. This height sensor is designed for leveling asphalt pavers by optically tracking a painted reference line. The sensor continuously detects the line position within its field of view. Typical use cases include work near tunnel walls, curbs, barriers, or even sheet piling.

» Can be mounted vertically or horizontally
» Integrated LED illumination
» Alignment assistance for quick setup
» Plug-and-play functionality within the MOBA environment

Options:
Customizable in terms of housing color, connector types, baud rate and application-specific profiles.

Technical data	
Operating voltage	9 … 32 V DC
Power consumption	< 13 W
Mounting method	3 x M5
Weight	0.6 kg
Size (LxWxH)	105 x 85 x 56 mm
Material	Aluminium
Ingress protection	IP68, IP69K
Operating temperature range	- 40 °C … + 85 °C
Storage temperature range	- 40 °C … + 85 °C
Image sensor	CMOS 1/2.7“ / HDR
Image sensor resolution	1920 x 1080 px (full HD)
Image format	16:9
Viewing angle	45°
Illumination	LED, white light

CAN

Name	Article number	Wavelength	Plugs	Interfaces
MLRC-450	04-21-61050	905 mm	8 pin male plug, threaded connection, 4 pin female plug, threaded connection, 7 pin male plug, bayonet connection	Interface 1: 1 x CAN ISO 11898 – 24 V; 125 kBit/s Connector type: 1 x M12, A coded, 8 pin Interface 2: Ethernet 100Base-TX (3) Connector type: 1 x M12, D coded, 4 pin

LASERGUIDE LASER RECEIVER

HIGH-PRECISION LASER GUIDANCE FOR MACHINE CONTROL

The Laserguide is a rugged, multi-channel laser receiver designed for precise automatic levelling and blade control in demanding machine control applications.

» 9 visual LED channels for accurate height reference feedback
» 196 mm receiver length enables fine levelling resolution
» Achievable control panel accuracy of ± 2 mm
» Fully waterproof housing for reliable performance in harsh environments

Technical data	
Size (LxWxH)	150 x 70 x 300 mm
Weight	2.9 kg
Mounting post diameter	35 mm to 52 mm
Shock protection	yes
Waterproof	yes
Receiving range	700 m radius
Power ON indication	Green LED
Ability to Offset	no
External power supply voltage range	12-24 V DC

CAN

Name	Article number	Beam reception area	Automatic Shutdown	Centre band resolution
Laserguide R.ULS.CAN	04-81-00462	196 mm	1 hour after the last detected laser beam	± 2 mm to ± 30 mm when connected to a panel in increments of 1 mm.

LASERGUIDE MILLIMETRE LASER RECEIVER

PRECISION LASER CONTROL DOWN TO THE MILLIMETRE

The Millimetre Laser Receiver is a rugged, linear laser sensor for ultra-precise height control in automated machine levelling – with mm-resolution and full system integration.

» Linear millimetre resolution with ± 2 mm control accuracy
» 256 mm receiver length with fully waterproof housing
» Fully configurable deadband and mm-level offset via control panel
» Supports automatic blade control for grading and earthmoving machines

Technical data	
Size (LxWxH)	150 x 70 x 390 mm
Weight	3.6 kg
Mounting post diameter	35 mm to 52 mm
Shock protection	yes
Waterproof	yes
Receiving range	700 m radius
Power ON indication	Green LED
Ability to Offset	yes
Offset range	± 100 mm
External power supply voltage range	12-24 V DC

CAN

Name	Article number	Beam reception area	Automatic Shutdown	Centre band resolution
Laserguide R.ULS.MM.CAN	04-81-00465	256 mm	1 hour after the last detected laser beam	± 1 mm to ± 30 mm in increments of 1 mm

HIGH-PRECISION LASER RECEIVER

PRECISION FOR LONG DISTANCES

This high-performance laser receiver is designed for use in demanding environments, offering long-range capability and impressive measurement accuracy.

» Operating diameter up to 600 m (depending on transmitter)
» 220 mm reception range with 0.1 mm resolution for precise height detection
» Fixed physical zero point ensures consistent reference height
» 360° detection angle for laser signals from any direction
» Shock-resistant housing for tough outdoor conditions

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	400 mA (12 V)
	205 mA (24 V)
Weight	1.8 kg
Ingress protection	IP 67
Operating temperature range	- 40 … + 70 °C
Storage temperature range	- 40 … + 70 °C
Working diameter	up to 600 m (depending on transmitter)
Receiving angle	360°
Receiving range	220 mm
Resolution:	0.1 mm
Wavelength	600 < λ < 1030 nm (sensivity > 30 %)
Max. sensivity	λ 850 nm
Rotation frequency	10 Hz … 20 Hz ±10%

CAN

Name	Article number	Measuring range	Plugs	Interfaces
LS-2000	04-60-11370	205 mm	7-pin male connector screw type connection	CAN: 1x ISO 11898, 24 V bitrate CAN, factory set A01: 125 kBit/s (adjustable) bitrate CAN, factory set B01: 250 kBit/s (adjustable)

HIGH-PRECISION LASER RECEIVER

VIRTUAL ZERO POINT FLEXIBILITY

The LS-3000 is a robust laser receiver offering high precision and maximum adaptability for mobile machinery and automated control systems.

» Operating diameter up to 600 m (depending on transmitter)
» Wide 280 mm detection range with 0.1 mm resolution
» Virtual zero point freely adjustable via software for flexible reference height
» No mechanical adjustments needed when conditions change
» Full 360° detection for laser signals from any direction

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	300 mA (12 V)
	180 mA (24 V)
Weight	3.4 kg
Ingress protection	IP 67
Operating temperature range	- 40 … + 70 °C
Storage temperature range	- 40 … + 70 °C
Working diameter	up to 600 m (depending on transmitter)
Receiving angle	360°
Receiving range	560 mm
Resolution	0.1 mm
Wavelength	600 < λ < 1030 nm (sensivity > 30 %)
Max. sensivity	λ 850 nm
Rotation frequency	10 Hz … 20 Hz ±10%

CAN

Name	Article number	Measuring range	Plugs	Interfaces
LS-3000	04-60-11361	553 mm	7-pin male connector, bayonet type connection; 7-pin male connector screw type connection	CAN: 1x ISO 11898, 24 V, 125 kBit/s MOBA PWM: 1x

SIGNALING

SMART SIGNALING SOLUTION FOR OEM APPLICATIONS

Explicitly developed for OEM integration, the CAN-Light offers a compact and reliable method for communicating machine status to operators. Through optical and/or acoustic signals, it indicates operating states, failures, safety conditions, and general system information.

Its seamless CAN-based communication and rugged design make it ideal for use in construction, municipal, and agricultural machinery, wherever clear and immediate feedback is essential for safe and efficient operation.

CAN-LIGHT CIRCULAR

SMART CIRCULAR SIGNAL LIGHT

The CAN-LIGHT CIRCULAR is a fully programmable RGBW signaling unit designed for mobile machines, offering dynamic visual and acoustic feedback with CANopen integration.

» Up to 200 custom icons and 129 texts
» RGBW LED matrix with preset and custom modes
» Loud buzzer with multiple sound patterns

Technical data	
Operating voltage	8...32 V DC
Power consumption	max 12 W
Cable length	0.3 m
Weight	0.8 kg
Ingress protection	IP 67
Operating temperature range	- 40°...+ 70°C
Storage temperatur range	- 40°...+ 80°C
LED-Matrix	19 x 5
Colour scheme	RGBW

CANopen

Display modes		
Preset modes	full colour	yes
	„traffic light"	yes
	levelling	yes
	symbols	checkmark / cross/ arrows
Customizable modes	custom bitmaps	max 200
	custom texts	max 129
	custom icons for text	max 31

Buzzer	
Buzzer sound pressure	> 90 dB
Buzzer frequency	3.5 kHz ±15%
Continuous	yes
loop of short beeps	5 Hz
loop of long beeps	1 Hz
loop of SOS code	yes
customizable loops with variable length	max 4

Name	Article number	Mounting method	Orientation	Plug
CAN-Light circular	04-07-11010	4 PT screws, 10 mm length to surface or bracket, clamping to tube, 40 mm, 4 x M 5 thread in housing	Cable down / right / left	5 pin binder M12, male

CAN-LIGHT FLAT

SMART FLAT SIGNAL LIGHT

The CAN-LIGHT FLAT is a fully programmable RGBW signaling unit designed for mobile machines, offering dynamic visual and acoustic feedback with CANopen integration.

» Up to 200 custom icons and 129 texts
» RGBW LED matrix with preset and custom modes
» Loud buzzer with multiple sound patterns

Technical data	
Operating voltage	8...32 V DC
Power consumption	max 12 W
Cable length	0.3 m
Weight	0.8 kg
Ingress protection	IP 67
Operating temperature range	- 40°...+ 70°C
Storage temperatur range	- 40°...+ 80°C
LED-Matrix	19 x 5
Colour scheme	RGBW

CANopen

Display modes		
Preset modes	full colour	yes
	„traffic light"	yes
	levelling	yes
	symbols	checkmark / cross/ arrows
Customizable modes	custom bitmaps	max 200
	custom texts	max 129
	custom icons for text	max 31

Buzzer	
Buzzer sound pressure	> 90 dB
Buzzer frequency	3.5 kHz ±15%
Continuous	yes
loop of short beeps	5 Hz
loop of long beeps	1 Hz
loop of SOS code	yes
customizable loops with variable length	max 4

Name	Article number	Mounting method	Orientation	Plug
CAN-Light flat	04-07-12000	4 PT screws, 10 mm length to surface or bracket	Cable left / right / up	5 pin binder M12, male

CONTROL UNITS

RELIABLE CONTROL FOR PROVEN SYSTEMS

MOBA's control units, such as MOBA-Matic or GS-506, are specifically developed for use within complete leveling and machine control systems.

They ensure seamless integration, intuitive operation, and robust performance under real-world conditions. Built on decades of application know-how, these units are the trusted choice for paving, grading, and milling applications worldwide.

MOBA-MATIC I

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	300 mA (24 V)
Weight	1.1 kg
Ingress protection	IP 67
Operating temperature range	- 25 … + 70 °C
Storage temperature range	- 25 … + 85 °C

CAN

2D LEVELLING CONTROLLER (1ST GENERATION)

Control unit for height and slope regulation on asphalt pavers and cold milling machines. Compatible with the standard MOBA sensor portfolio, it is designed for precise 2D levelling control. The system is also suitable for integration into other types of mobile working machines.

» Flexible application possibilities
» Compatible with MOBA standard CAN sensors
» Single display (monodisplay)
» Bayonet locking system for quick installation
» Intuitive, icon-based menu navigation

Options:
Customizable in terms of housing colors, baud rate and communication protocol.

Name	Article number	LC display	Plugs	Interfaces
MMS-1000	04-25-10300	3½ digit, sealed, integrated lighting	12-pin plug (Bayonet connection) 7-pin plug (Bayonet connection)	Power outputs: 1x ON / OFF, NPN, max. 3 A 1x ON / OFF, PNP, max. 2,5 A Analog outputs: 1x PROP, PNP, max. 2,5 A 1x SERVO, max. 250 mA CAN: 1x ISO 11898, 24 V, 125 kBit/s,

MOBA-MATIC II

2D LEVELLING CONTROLLER (2ND GENERATION)

Control unit for height and slope regulation on asphalt pavers and cold milling machines. Compatible with the standard MOBA sensor portfolio and also suitable for other mobile machine applications.

» Flexible application options
» Compatible with MOBA standard CAN sensors
» 3.5” color display for clear and intuitive operation
» Bayonet locking system for easy installation
» Icon-based menu navigation for user-friendly interaction

Options:
Customizable in terms of housing colors, baud rate and communication protocol.

Technical data	
Operating voltage	10 … 30 V DC
Current consumption	300 mA (24 V)
Weight	1.3 kg
Ingress protection	IP 67
Operating temperature range	- 20 … + 70 °C
Storage temperature range	- 30 … + 80 °C
Backlight	Adjustable brightness
LED	Adjustable brightness

CAN

Name	Article number	TFT colour graphic display	Plugs	Interfaces
MOBA-MATIC II	04-25-10502	3,5“ , optical bonding	12-pin plug (Bayonet connection) 7-pin plug (Bayonet connection)	Power outputs: 1x ON / OFF, NPN, max. 3 A 1x ON / OFF, PNP, max. 2,5 A Analog outputs: 1x PROP, PNP, max. 2,5 A 1x SERVO, 10 ... 2500 mA CAN: 1x ISO 11898, 24 V, 125 kBit/s,

2D GRADING CONTROL

Technical data	
Voltage range	10 … 30 V DC
Current consumption	< 500 mA / > 250 m
Weight	1.7 kg
Ingress protection	IP 54
Operating temperature range	- 20 … + 60 °C
Storage temperature range	- 30 … + 65 °C

2D CONTROL SYSTEM

The GS-506 is a flexible and robust 2D machine control system for graders, dozers, and attachments, designed for highly accurate grading in various construction environments.

» Sensor flexibility: free combination of laser, ultrasonic, inclination sensors and much more
» Open hydraulic interface: compatible with almost all machines
» User-friendly operation: clearly structured interface, easy to use even for beginnersand durable

Name	Article number	Plugs	Interfaces
GS-506	04-25-50040-A02	Multistick left, right Masterswitch CAN	1x CAN

DISPLAYS

CUSTOMIZABLE VISUALIZATION FOR MOBILE MACHINES

MOBA offers a wide range of displays for mobile machines – from compact 4.3” and 5” units for dedicated applications to our highly versatile Modular Display Platform. Based on robust 7” and 10” modules with a scalable hardware and software architecture, the platform gives OEMs and system integrators the freedom to tailor interfaces to any machine or application.

Whether for data display, machine control, or operator interaction – the modular platform provides the flexibility and expandability needed for individual requirements and future upgrades.

4.3” GRAPHIC DISPLAY

NEXT GENERATION DISPLAY TECHNOLOGY

This 4.3-inch operator-focused display is designed for intuitive use in mobile machinery environments. With its user-friendly interface and robust design, it significantly enhances the customer experience by simplifying interactions and improving operational efficiency.

» 32bit microprocessor
» 4.3” graphic display with backlight keys
» I/O software configurable
» Two CAN-BUS lines
» 480x272 pixel – 900 cd/m2
» IPS TFT-LCD with LED backlight

Options:
» Analog video input

Technical data	
Operating voltage	8 … 32 V DC
Current consumption	100 to 500 mA @ 12V
Weight	0.2 kg
Ingress protection	IP67
Material	Plastic with silicon coating
Operating temperature range	- 40°C to + 75°C
Storage temperature range	- 40°C to + 80°C
Display type	IPS TFT-LCD with LED backlight
Display resolution	480 x 272 pixel
Brightness	900 cd/m² (Typ)
Contrast ratio	800:1 (Typ)
Display Colors	16.7 M
Size (LxWxH)	163 x 38 x 99.5 mm
Buzzer	50 db
Video-Interface	1x Analog video input PAL
USB port	1x USB 2.0

Name	Article number	Plugs	Inputs	Outputs	Interfaces
MVT-43V	33-04-26-97210	10-pin plug	4x Digital high side / Analog inputs	4x Digital ouputs (2A max)	CAN: 2x CAN-bus interfaces, ISO 11898-2 compliant

5” MINI-OPERAND

RUGGED ON-BOARD ANDROID TERMINAL

The Mini-Operand is a powerful Android-based on-board computer built for vehicle integration, offering flexible use as a tablet or fixed terminal in mobile and demanding applications.

» High-resolution display, sunlight-readable and suitable for in-vehicle use
» Direct CAN bus connection via cradle or holder
» Integrated RFID reader, radio modules, and telephony support
» Rugged design for waste vehicles, navigation, or mobile control tasks

Technical data	
Current consumption	1.5 A max / 5 V USB 1.2 A max. / 12 V vehicle voltage 0.6 A max. / 24 V vehicle voltage
Battery	Li-Ion battery 3.6 V / 3.5 Ah
Weight:	0.4 kg
Ingress protection	IP 54
Operating temperature range	- 20 … + 60°C
Storage temperature range	- 20 … + 60°C
RAM	2 GB LPDDR3
Application processor	Octa ARM Cortex-A53 cores up to 1,8 GHz 64 bit processor
Display resolution	854 x 480 pixel
Display size	5” color TFT
Format	16:9, up to 600 cd/m2
Adjustable infinitely brightness	Yes
Ambient brightness sensor	Yes
Additional display elements	Multicolor LED

Name	Article number	Mounting method	Flash	Interfaces
Mini Operand	04-55-0230	Connection for RAM-mount, connection cable (5 m)	16 GB eMMC 8 GB Micro SDHC card supports up to 128 GB	CAN: 2x USB: 2.0 Digital Input:High active threshold 8 V Wireless: 4G/LTE/GSM, BT 4.2 BLE, WiFi 2.4 GHz, 802.11/b/g/n Positioning: GNSS, WiFi SIM: Micro-SIM, 3FF (internal card socket); SIM chip

7” HYBRID DISPLAY

NEXT GENERATION DISPLAY TECHNOLOGY

The GDH-070 combines a 7-inch touchscreen with physical keys for precise and reliable operation in challenging environments.

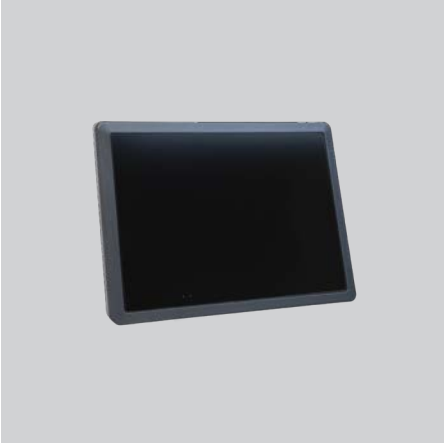
» i.MX8 Quad Core Series, 4x 1,6 GHz
» 2 GB LPDDR4 RAM (optional up to 8 GB)
» 8 GB eMMC Flash (optional up to 64 GB)
» Yocto 4 based custom Linux
» QT 6
» Customer specific design

CODESYS

Technical data	
Operating voltage	24V, 12V (10-32V) DC
Weight	~ 1.25 kg
Material	Plastic and Aluminium die casting
Ingress protection	IP65
Operating temperature range	- 30°C to + 70°C
Storage temperature range	- 30°C to + 80°C
Colour display	TFT LCD transmissive
Display Size	7 inch
Format	Wide, 16:10
Display resolution	800 x 480 pixel
Luminance	1000 cd/m²
Contrast ratio	Typical 1000:1
Viewing angle	Typical 85/85/85/85, portrait & landscape
Touch	PCAP, 2 touchpoints simultaneously
Ambient brightness sensor	1 sensor
Adjustable infinitely brightness	By software
Optical bonding	Yes
Anti-reflection	Yes

Name	Article number	Plugs	Interfaces
GDH-070	04-25-40400	10-pin plug	CAN ISO 11898-2: 2x Bitrate 125 - 1000 kBit/s: Software configurable Node ID: 2x Address inputs, 3 states UART*: 2x RS232, no RTS/CTS Ethernet*: 1x 10/100/1000BASE-TX SPE: 1x 100BASE-T1, PoDL passive USB*: 1x USB 2.0 high speed, OTG ready Digital inputs*: 2x 0V/24V, positive switching Analogue camera inputs*: 4x PAL/NTSC, 1VPP, 75Ω Digital camera: Via SPE, H.264 / MJPEG Connectors must be added to access the interfaces marked with *. Please contact MOBA if required. We will find a solution.

7” TOUCH DISPLAY



NEXT GENERATION DISPLAY TECHNOLOGY

The GDT-070 is a 7-inch touchscreen display designed for use in industrial and mobile environments with high durability demands.

» i.MX8 Quad Core Series, 4x 1,6 GHz
» 2 GB LPDDR4 RAM (optional up to 8 GB)
» 8 GB eMMC Flash (optional up to 64 GB)
» Yocto 4 based custom Linux
» QT 6

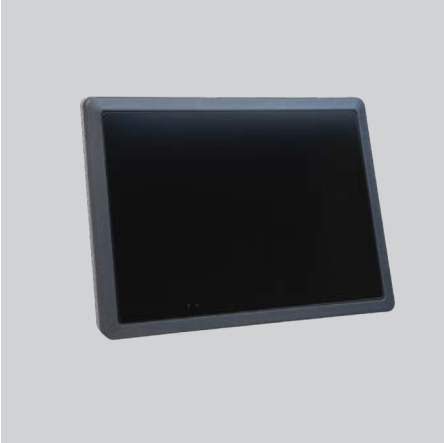
Variants: Available as built-in or in-cab version (housing modifications required)

CODESYS

Technical data	
Operating voltage	24V, 12V (10-32V) DC
Weight	~ 1.25 kg
Material	Plastic and Aluminium die casting
Ingress protection	IP65
Operating temperature range	- 30°C to + 70°C
Storage temperature range	- 30°C to + 80°C
Colour display	TFT LCD transmissive
Display Size	7 inch
Format	Wide, 16:10
Display resolution	800 x 480 pixel
Luminance	1000 cd/m²
Contrast ratio	Typical 1000:1
Viewing angle	Typical 85/85/85/85, portrait & landscape
Touch	PCAP, 2 touchpoints simultaneously
Ambient brightness sensor	1 sensor
Adjustable infinitely brightness	By software
Optical bonding	Yes
Anti-reflection	Yes

Name	Article number	Plugs	Interfaces
GDT-070	04-25-40300	10-pin plug	CAN ISO 11898-2: 2x Bitrate 125 - 1000 kBit/s: Software configurable Node ID: 2x Address inputs, 3 states UART*: 2x RS232, no RTS/CTS Ethernet*: 1x 10/100/1000BASE-TX SPE: 1x 100BASE-T1, PoDL passive USB*: 1x USB 2.0 high speed, OTG ready Digital inputs*: 2x 0V/24V, positive switching Analogue camera inputs*: 4x PAL/NTSC, 1VPP, 75Ω Digital camera: Via SPE, H.264 / MJPEG Connectors must be added to access the interfaces marked with *. Please contact MOBA if required. We will find a solution.

10” TOUCH DISPLAY



NEXT GENERATION DISPLAY TECHNOLOGY

The GDT-100 is a 10-inch touchscreen unit offering a flexible interface and rugged construction for control and monitoring tasks.

» i.MX8 Quad Core Series, 4x 1,6 GHz
» 2 GB LPDDR4 RAM (optional up to 8 GB)
» 8 GB eMMC Flash (optional up to 64 GB)
» Yocto 4 based custom Linux
» QT 6

Variants: Available as built-in or in-cab version (housing modifications required)

CODESYS

Technical data	
Operating voltage	24V, 12V (10-32V) DC
Weight	~ 1.9kg
Material	Plastic and Aluminium die casting
Ingress protection	IP65
Operating temperature range	- 30°C to + 70°C
Storage temperature range	- 30°C to + 80°C
Colour display	TFT LCD transmissive
Display Size	10 inch
Format	Wide, 16:10
Display resolution	1280 x 800 pixel
Luminance	1000 cd/m²
Contrast ratio	Typical 1000:1
Viewing angle	Typical 85/85/85/85, portrait & landscape
Touch	PCAP, 2 touchpoints simultaneously
Ambient brightness sensor	1 sensor
Adjustable infinitely brightness	By software
Optical bonding	Yes
Anti-reflection	Yes

Name	Article number	Plugs	Interfaces
GDT-100	04-25-40200	10-pin plug	CAN ISO 11898-2: 2x Bitrate 125 - 1000 kBit/s: Software configurable Node ID: 2x Address inputs, 3 states UART*: 2x RS232, no RTS/CTS Ethernet*: 1x 10/100/1000BASE-TX SPE: 1x 100BASE-T1, PoDL passive USB*: 1x USB 2.0 high speed, OTG ready Digital inputs*: 2x 0V/24V, positive switching Analogue camera inputs*: 4x PAL/NTSC, 1VPP, 75Ω Digital camera: Via SPE, H.264 / MJPEG Connectors must be added to access the interfaces marked with *. Please contact MOBA if required. We will find a solution.

HMI PLATFORM

BUILD YOUR OWN OPERATOR INTERFACE

The Modular HMI Platform enables the creation of fully customized operator units by combining joysticks, keypads, and displays into one rugged control panel.

Thanks to its CAN-based architecture and modular design, components can be freely configured, upgraded, or replaced. This platform is ideal for OEMs seeking a flexible, long-term solution that adapts to changing machine requirements and individual design standards.

HMI MC SINGLE UNIT

COMPACT KEYPAD CONTROL WITH CUSTOM DESIGN

This single-module HMI unit offers 16 freely assignable keys and a customizable front foil – the ideal solution for space-efficient control with full design flexibility.

» 16 programmable keys for tailored machine functions
» Neutral front foil surface for custom branding and symbol layout
» Compact format for tight installation spaces
» CAN interface (ISO 11898, CANopen, 24 V, 250 kBit/s) for easy integration

Technical data	
Voltage range	8 … 32 V DC
Maximum power input	3.1 W
Weight	700 g
Operating temperature range	- 30 ... + 75°C
Storage temperature range	- 40 ... + 80 °C
Ingress protection	IP24

CANopen

Name	Article number	Module	Interfaces
HMImc	04-26-15050	1 module, 16 keys, neutral front foil	CAN-interface : ISO 11898-24V 250kBit/s CANopen

HMI MC TRIPLE UNIT

Technical data	
Voltage range	8 … 32 V DC
Maximum power input	5.1 W
Weight	1.8 kg
Operating temperature range	- 30 ... + 75°C
Storage temperature range	- 40 ... + 80 °C
Ingress protection	IP24

CANopen

TWO-JOYSTICK CONTROL WITH FULL KEYPAD FLEXIBILITY

This HMImc triple unit combines two precision joysticks with a 16-key keypad and emergency stop in a rugged housing – ideal for compact yet highly functional machine operation.

» Dual joysticks for intuitive multi-axis machine control
» Customizable 16-key keypad for flexible function assignment
» Integrated emergency stop for safety-critical applications
» Modular platform enables seamless replacement or expansion

Name	Article number	Module	Interfaces
HMImc	04-26-35063	3 Modules, neutral front foil, 2x joystick-modules, 16 keypad	CAN-interface : ISO 11898-24V 250kBit/s CANopen

HMI MC TRIPLE UNIT

Technical data	
Voltage range	8 … 32 V DC
Maximum power input	4.1 W
Weight	1.8 kg
Operating temperature range	- 30 ... + 75°C
Storage temperature range	- 40 ... + 80 °C
Ingress protection	IP67

COMPACT CONTROL WITH MAXIMUM SAFETY

This triple HMI unit features two joystick modules, a 6-key keypad, an integrated emergency stop, and a protective railing – engineered for rugged field use and intuitive operator handling.

» Dual joysticks for versatile motion control
» Compact 6-key keypad for essential command functions
» Emergency stop button ensures safety-critical response
» Protective railing for ergonomic grip and collision protection
» CAN interface (ISO 11898, CANopen, 24V, 250 kBit/s) for seamless integration

Name	Article number	Module	Interfaces
HMImc	04-26-35031	3 Modules, neutral front foil, 2x joystick-modules, 6 keypad	CAN-interface : ISO 11898-24V 250kBit/s CANopen

HMI SMART

MODULAR CONTROL UNIT FOR MOBILE MACHINES

The HMI SMART PANEL is a fully modular operator interface with configurable I/Os, customizable design, and finger joysticks – tailored for quick integration via CANopen.

» CANopen-compatible, ready for fast system integration
» Finger joystick and 16-key input area
» Front foil customizable in color and layout
» Emergency stop button included
» Software-configurable I/O

Technical data	
Voltage range	8 … 32 V DC
Current consumption	70 mA at 12V
Ingress protection	700 g
Fitting	- 30 ... + 75°C
Operating temperature range	- 40 ... + 80 °C
Storage temperature range	IP24
EMC	EN 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011
Vibration, Shock and Free Fall	EN 60068-2-6:2007 / EN 60068-2-27:2009
Temperature	EN 60068-2-1, N14Nb, -2, -78, -30

Name	Article number	Module	Interfaces
HMIsmart	33-04-26-97605	6x Paddle joystick (hall effect) 6x Key switches with single multicolor led feedback 6x Key switches with double multicolor led feedback 12x Multicolor segnalation leds 1x Buzzer (95dB external mount)	1x CAN BUS (11/29 bit identifier), ISO 11898-2 CanOpen communication protocol

STAND-ALONE HALL JOYSTICK

HALL-EFFECT SAFETY JOYSTICK

This rugged stand-alone joystick uses redundant Hall-effect sensors for safe and precise control in mobile and industrial applications – compliant with PLd cat.3.

» Dual-sensor redundancy for PLd safety level
» Compact, permanent mount with anti-rotation design
» Long service life: over 3 million movements
» Resistant to harsh environments (DIN EN 60529)

Technical data	
Operating voltage	8 ... 32 V (DC)
Nominal voltage	24 V (DC)
Max. power consumption	2.4 W per Channel
Dead zone around zero	± 10° (X-, Y-axis)
Joystick signal X-, Y-axis	Linear in the range of 10° .... 28°
Resolution joystick signal X-, Y-axis	≤ 100 steps
Joystick signal Z-axis	Switch only
Resolution joystick signal Z-axis	Binary
Deflection X-, Y-axis	Approx. ± 28°
Deflection Z-axis	2 mm, with counterholder plate demounted
Resilience X-, Y-axis	9.6 N
Resilience Z-axis	21.5 N
Max. Overload X-, Y-axis	Approx. 290 N
Max. Overload Z-axis	600 N
Weight	Approx. 210 g
Operating temperature range	- 30 ... + 80°C (dry)
Storage temperature range	- 30 ... + 80°C (dry)
Ingress protection	IP 67

Name	Article number	Cable Outlet	Connector	Interfaces
Joystick	03-07-50760	180° vertical, in extension of the joystick lever	5-pin cable connector M12, A-coded, cast-on Imax = 4 A Round connector according to IEC 61076-2-101	2x CAN physical layer ISO 11898-2 Bitrate: 250 kBit/s CANOpen, programmable (e.g. 125/250/500 kBit/s) Addresses / Node-IDs: Rotary switch with 16 positions for setting Node-IDs

CONTROLLERS

INTELLIGENT CONTROL UNITS FOR MOBILE MACHINERY

Controllers are central to modern automation systems. They process sensor data, execute control commands, and coordinate essential machine functions in real time, even under varying conditions. These controllers enable smooth communication between sensors, Human-Machine Interfaces (HMIs), and actuators. They manage control algorithms, oversee safety functions, and interface with other components using standardized protocols.

MOBA's controllers are specifically designed for outdoor use—robust, high-performance, and freely programmable. They can be customized and easily integrated into OEM systems, providing a reliable platform for automated, connected, and efficient machine processes.

SMART POSITIONING CONTROLLER

DUAL-RTK GNSS CONTROLLER

The MSPC delivers centimeter-level positioning with multi-frequency, multi-constellation GNSS support – ideal for demanding mobile and industrial applications.

» Supports all major GNSS systems (GPS, GLONASS, Galileo, BeiDou) and frequency bands
» Delivers reliable positioning even in challenging conditions
» Integrated microcontroller for robust and versatile use
» Easy setup and monitoring via intuitive web interface

Please note: The controller does not include its own LTE modem and requires an external data source for internet access.

Technical data	
Normal operating voltage	12 V DC / 24 V DC
Operating voltage	8 ... 36 V DC
Weight	0.4 kg
Material	Cast aluminium
Ingress protection	IP 65
Operating temperature range	- 40 °C ... + 85 °C
Storage temperature range	- 40 °C ... + 85 °C
WEB Interface	yes
Dual RTK GNSS in Centimeter Level	yes
RTCM Data	via RS232 or NTRIP
Update rate	20 Hz
Internal 6Axis IMU for Sensor Fusion	yes
GNSS Heading	0.1 ° / m Baseline
GNSS Pitch	0.3 ° / m Baseline

CANopen

Name	Article number	Project memory	GNSS	Interfaces
MSPC	04-25-70721	8 GB	GPS, GLONASS, Galleo, Beidou, QZSS	CAN: 2x CAN FD (J1939 / CANOpen) RS232: 2x USB: 1x Full Speed Ethernet and SPE: 1x

LEVELLING KERNEL CONTROLLER

UNIVERSAL CONTROL UNIT

The LKC is a high-performance, flexible controller designed for robust, real-time control in mobile machinery and industrial systems.

» Built for harsh outdoor environments and long-term use on construction machinery
» Robust hardware with dual STM32F7 processors for real-time control tasks
» Integrated temperature sensor for self-monitoring
» Versatile levelling controller with flexible sensor handling
» Compatible with full MOBA sensor portfolio and OEM-specific integrations

Technical data	
Nominal operating voltage	12 V DC / 24 V DC
Operating voltage	8 ... 32 V DC
Mounting method	4 bolts, 5 mm
Colour	Aluminium
Weight	1.15 kg
Material	Cast aluminium
Ingress protection	IP 67
Operating temperature range	- 40 ... + 80 °C
Storage temperature range	- 40 ... + 85 °C

CAN

Name	Article number	Processor parameter	Interfaces
LKC-120	04-25-70711	Processor type: 2x STM32F7 EEPROM: 2x 128 Kbit FRAM: 2x 1 Mbit Real time clock: Yes Temperature Sensor: Yes	Analog inputs, each programmable Bitrate CAN, programmable CAN ISO 11898 Digital inputs, each programmable

ELECTRONIC MASTER CONTROLLER

MASTER ELECTRONIC CONTROL UNIT

Designed with an automotive style housing, resistant to extreme application conditions, such as humidity, vibrations, high-temperature and mechanical stress, it offers a greater flexibility and high level of security, to achieve a wide range of application for mobile machine market.

» Two 32bit microprocessor (ARM architecture)
» I/O software configurable
» Two CAN-BUS lines
» CoDeSys V 3.5
» IP67
» Designed to be ready for PI “d” applications

Options:
» Platform libraries for System Integration application development

Technical data	
Operating voltage	8 ... 32 V DC
Current consumption	150 mA @ 12V
Weight	0.2 kg
Fitting	4 x M4
Operating temperature range	- 40 ... + 85 °C
Storage temperature range	- 40 ... + 85 °C
Ingress protection	IP 67
CPU	2x ARM® Cortex®-M4 series, 32bit core (App) 1x ARM® Cortex®-M3 series, 32bit core (WDO)
Clock rate	168 MHz
FLASH memory size	2 MB
RAM memory size	256 KB / 4 KB backup
Datalogger memory size	256 KB (shared)
Vibration, Shock and Free Fall	EN 60068-2-6:2007 / EN 60068-2-27:2009
Temperature	EN 60068-2-1, N14Nb, -2, -78, -30

CODESYS

Name	Article number	Inputs	Outputs	Connectors	Interfaces
MPC-113	04-25-7011X	2x 6 (12) Digital high side / Analog inputs	2x 6 (12) Digital/PWM open loop outputs (2A max) 2x 1 (2) Digital/PWM open loop outputs (5A max)	36 pin JST 36ZRO-B-1A	2x CAN BUS (11/29 bit identifier), ISO 11898-2

ELECTRONIC SLAVE CONTROLLER

SLAVE ELECTRONIC CONTROL UNIT

Designed with an automotive style housing, resistant to extreme application conditions, such as humidity, vibrations, high-temperature and mechanical stress, it offers a greater flexibility to extend I/Os capacitance for mobile machine market.

» Two 32bit microprocessor (ARM architecture)
» I/O software configurable
» Two CAN-BUS lines
» CoDeSys V3.5
» Designed to be ready for PI “d” applications
» CANopen standard protocol

Options:
» Powerful Tool (MOBAtune) for quick and easy I/Os configuration

Technical data	
Operating voltage	8 ... 32 V DC
Current consumption	150 mA @ 12V (operational mode) 10 mA @ 12V (standby mode)
Weight	0.2 kg
Fitting	4 x M4
Operating temperature range	- 40 ... + 85 °C
Storage temperature range	- 40 ... + 85 °C
Ingress protection	IP 67
Microprocessor	2x ARM® Cortex®-M3 series, 32bit core
Clock rate	72 MHz
Program memory size	32 KB
RAM memory size	10 KB
EMC	EN 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011
Vibration, Shock and Free Fall	EN 60068-2-6:2007 / EN 60068-2-27:2009
Temperature	EN 60068-2-1, N14Nb, -2, -78, -30

CANopen

CODESYS

Name	Article number	Inputs	Outputs	Connectors	Interfaces
MSC-113	04-25-70375	2x 4 (8) Digital high side / Analog inputs 2x 2 (4) Digital high side / Analog inputs (with pull up)	2x 4 (8) Digital/PWM open loop outputs (2A max.) 2x 2 (4) Digital/PWM open loop outputs (4A max.)	36 pin JST 36ZRO-B-1A	1x CAN BUS (11/29 bit identifier), ISO 11898-2

PROCESS CONTROLLER

RELIABLE MULTI-CHANNEL CAN CONTROLLER

The MPC-330 is a powerful and compact process controller with multiple memory types and three CAN interfaces – designed for reliable real-time control in complex automation systems.

» Triple CAN (ISO 11898, 24 V, 50 kBit/s to 1 MBit/s)
» Dual microcontroller architecture (uC A, uC B, A+B)
» Extensive memory resources: Flash, RAM, FRAM, EEPROM
» Ideal for distributed control and sensor networks

Technical data	
Voltage range	8 ... 30 V DC
Current consumption	≤ 250 mA @ 24 V
Processor system	2xXC167
Operating temperature range	- 30 ... + 80 °C
Storage temperature range	- 30 ... + 80 °C
Ingress protection	IP 67
Weight	2 kg
Storage temperature range	- 30 ... + 80 °C

Name	Article number	Memory	Interfaces
MPC-330	04-25-70290-A01	2x4 MByte serieller Flash 2x2 MByte RAM 2x8 KByte FRAM 2x128 KByte EEPROM	3x CAN ISO 11898 24 V 50 kBit/s ... 1MBit/s from that 1x uC A, 1x uC B, 1x uC A+B

REMOTE CONNECTION

GOING THE DISTANCE: EFFICIENCY, SERVICE, AND SYSTEM AVAILABILITY

MOBA's remote connection solutions offer secure and reliable access to machines and systems anytime and anywhere. They serve as the backbone of modern support, facilitating predictive maintenance and efficient diagnostics through direct remote access. This reduces downtime, lowers service costs, and supports data-driven business models for machine operations. Adding a cutting edge to the competition that requires on-site assistance.

CLOUD GATEWAY LTE WITH DISPLAY

LTE INTERFACE FOR CAN-BASED MACHINES

The CG1 enables secure and robust connectivity to the MOBA Cloud, acting as an LTE gateway for machine data in outdoor applications.

» CAN-based LTE gateway for MOBA Cloud connectivity
» Optimized for external mounting outside the operator cab
» Fully integrated with MOBA's platform infrastructure
» Available in various configurations

Technical data	
Operating voltage	8 … 32 V (DC)
Current consumption	Typ. 100 mA @ 24 V
Standby current	Typ. 80 µA
Weight	1,0 kg
Material	Polyester, fiber-glass reinforced
Ingress protection	IP67
Operating temperature range	- 25 … + 75 °C
Storage temperature range	- 25 … + 75 °C
Colour range	Monochrom
Display resolution	128 x 64 pixel
Backlight	LED

CANopen

Name	Article number	Control unit	Processor parameter	Interfaces
CG1	04-55-02611	Membrane keyboard, 16 buttons	ARM® Cortex M3 1 MByte serial Flash 132 kByte SRAM 8 kByte FRAM	CAN: 2x Clean Open / J1939 RS-232: 3x

CLOUD GATEWAY LTE WITHOUT DISPLAY

LTE INTERFACE FOR CAN-BASED MACHINES

The CG1 enables secure and robust connectivity to the MOBA Cloud, acting as an LTE gateway for machine data in outdoor applications.

» CAN-based LTE gateway for MOBA Cloud connectivity
» Optimized for external mounting outside the operator cab
» Fully integrated with MOBA's platform infrastructure
» Available in various configurations

Technical data	
Operating voltage	8 … 32 V (DC)
Current consumption	Typ. 100 mA @ 24 V
Standby current	Typ. 80 µA
Weight	1,0 kg
Material	Polyester, fiber-glass reinforced
Ingress protection	IP67
Operating temperature range	- 25 … + 75 °C
Storage temperature range	- 25 … + 75 °C

CANopen

Name	Article number	Processor parameter	Interfaces
CG1 without display	04-55-02636	ARM® Cortex M3 1 MByte serial Flash 132 kByte SRAM 8 kByte FRAM	CAN: 2x Clean Open / J1939 RS-232: 3x

CLOUD GATEWAY WIFI

WI-FI INTERFACE FOR CAN-BASED MACHINES

The CGW offers wireless cloud connectivity via Wi-Fi for machine data, making it a smart alternative to LTE-based gateways in local network environments.

- » CAN-based Wi-Fi gateway for MOBA Cloud integration
- » Designed for installations outside the driver's cab
- » Full compatibility with MOBA's cloud platform
- » Alternative to LTE in WLAN-equipped fleets

Technical data	
Name	Cloud Gateaway WIFI
Article number	04-21-20610
Operating voltage	8 … 32 V DC
Current consumptioin	max. 200 mA
Connection	M12 A-CODING (CiA 303)
Operating temperature range	- 20°...+ 70°C
Storage temperature range	- 40°...+ 70°C
Memory	512 MB Flash
Housing	PA6.6 GK30, RAL 1021
Size	80 x 70 x 35 mm
Ingress protection	IP55, electronics coated
Weight	110 g
Status LED	CAN status / WIFI status
Interfaces	CAN (CANOpen), WLAN IEEE 802.11 b/g/n

IOT CLOUD GATEWAY LTE

IOT CLOUD SOLUTION FOR SMART MOBILE MACHINE

ACCESS 4 YOU enables global, bidirectional communication between mobile machines and the myA4U IoT Cloud Platform — combining GPS, LTE, and CAN to support OEMs with a scalable, future-ready solution.

» 4G connectivity with eSIM support
» GPS positioning for asset tracking
» CANopen-compatible and I/O configurable
» Optional Wi-Fi version available

Options:
» WiFi version

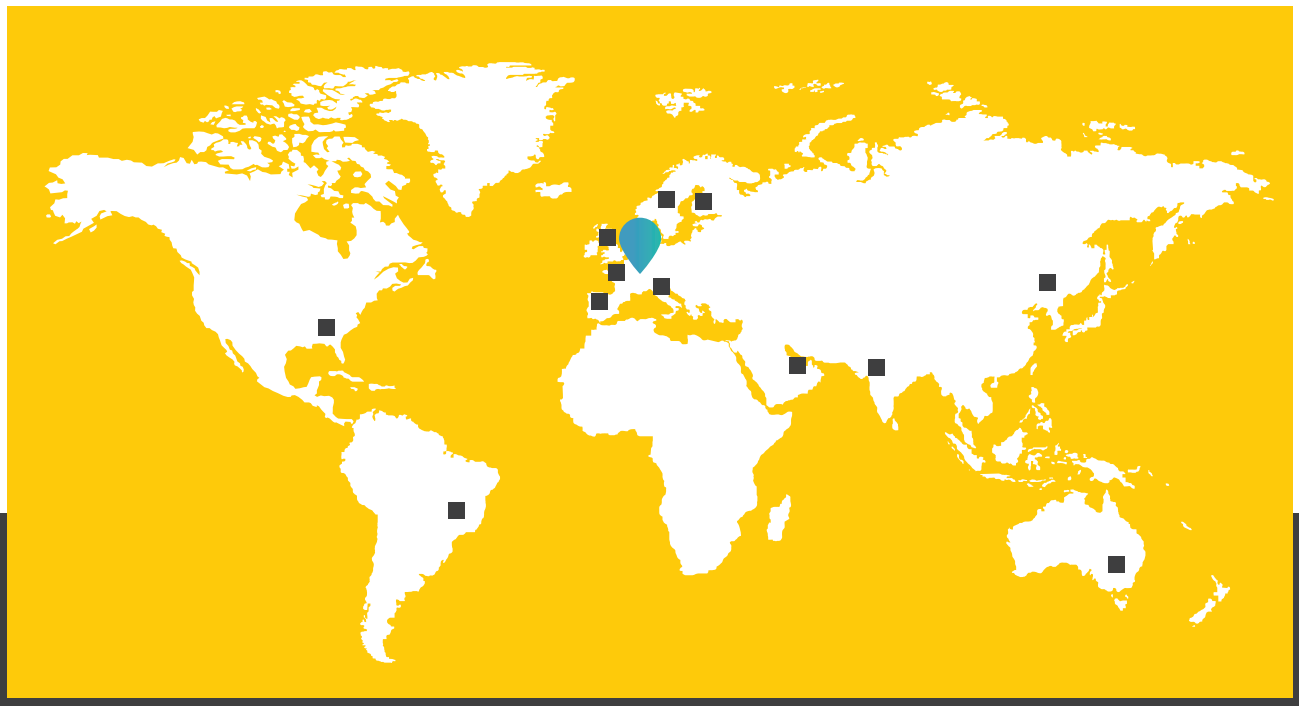
Technical data	
Operating voltage	8 ... 32 V DC
Current consumption	150 mA @ 12V (operational mode) 10 mA @ 12V (standby mode)
Weight	0.2 kg
Fitting	4 x M4
Operating temperature range	- 40 ... + 85 °C
Storage temperature range	- 40 ... +85 °C
Ingress protection	IP 67
Microprocessor	ARM® Cortex®-M7 series, 32bit core
Clock rate	Up to 480 MHz
Program memory size	1 MB
RAM memory size	564 KB
NAND Memory Size	32 MB
Inputs	1x Ignition input, 4x Digital/Analog inputs
Outputs	4x Digital/PWM outputs (2A max)
Other	3x multi-color leds for status segnalation

Name	Article number	Connectivity	Interfaces	Connectors:
A4U SIM	33-04-25-97005	Modem: Cat 1 - Worldwide coverage Networks: LTE, UMTS/HSPA+, GSM/GPRS/EDGE SIM: eSIM ThingsMobile®	3x CAN BUS (11/29 bit identifier), ISO 11898-2 Serial: 1x RS-232 1x USB (for programming only)	36 pin JST 36ZRO 36ZRO-BB-1A 1x SMA female for GPS antenna 1x SMA female for GSM antenna
A4U Wi-Fi	33-04-25-97010	WLAN standards: IEEE802.11a/b/g/n/ac	3x CAN BUS (11/29 bit identifier), ISO 11898-2 Serial: 1x RS-232 1x USB (for programming only)	36 pin JST 36ZRO 36ZRO-BB-1A 1x SMA female for GPS antenna 1x SMA female for GSM antenna

MOBA GROUP

First Choice In Mobile Automation

The MOBA Group has been an established name in mobile automation for more than 50 years. Our know-how and many years of experience in automation technology distinguish us as globally recognized experts. We develop and produce innovative machine control systems, identification and mobile weighing technologies as well as flexible software solutions. But MOBA components and systems are also used in other areas where robust and reliable sensors, controllers and operating units are required.



Version 2.1

MOBA®
MOBILE AUTOMATION

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