BERNARD GRUPPE

Data Sheet

BMA Mobile

BERNARD Mobility Analyser Mobile



The **BMA Mobile** is a battery-powered system for **temporary traffic surveys**. The detector captures image data using an integrated camera and processes it directly on the device. Objects within the field of view are detected and classified. Events are transmitted as JSON via MQTT. Central management is handled by the **Control Center**.

System articles:

- 100506 — BMA detector, hardware revision v3, 2.7 mm focal length
- 100507 — Battery/mast set: battery box, carbon telescopic mast, charger

Technical Data

General	
Function	Temporary detection of moving traffic
Typical applications	Traffic survey (cross-section & turning movement)
Model	BMA Mobile with 2.7 mm focal length
Detected object classes	**12+1** (Traffic & Parking Accuracy+ model)
Detection accuracy*	Traffic counting – Counting accuracy: **>95%** Classification main classes: **>95%** Classification subclasses: **>90%** **) With optimal alignment and calibration*
Speed estimation*	±10% deviation at <60 km/h ±15% deviation at <100 km/h ±20% deviation at <130 km/h **) With optimal alignment and a calibrated system over a 10 m section*
Object speed	**< 130 km/h**
Day / night	Yes / Yes (with IR illumination)

Maximum measurement duration*	Continuous operation: summer approx. **7 days** | winter approx. **6 days** Schedule: summer approx. **10 days** | winter approx. **9 days** **) New, fully charged battery, full use of the nominal energy of 1,280 Wh. IR profile: summer 10 h on / 14 h off, winter 16 h on / 8 h off. Schedule: 06:00–10:00 and 15:00–19:00, standby at 4.5 W outside the measurement blocks. Temperature, battery condition, configuration and IR use may reduce the measurement duration.*
Mounting parameters	
Mounting type	Carbon telescopic mast with mounting bracket and tensioning straps on fixed infrastructure
Mounting height	Up to approx. **6 m**
Horizontal mounting angle	0°–360° (recommended: ~15° for better classification)
Anti-removal locking	Mast lock and 4 padlocks (included with article 100507)
Electrical characteristics	
Power supply	Mobile battery box; detector input **12–48 V DC**
Maximum power consumption	**20 W**
Average power consumption	Standby: 4.5 W | operation, IR off: 7 W | operation, IR on: 10 W
Connectivity	
Technology	LTE Cat-4, GSM/EDGE
4G bands	Global: B1, B2, B3, B4, B5, B7, B8, B8_US, B9, B12, B13, B14, B18, B19, B20, B25, B26, B28
SIM format	Nano-SIM
Transmission protocol/format	MQTT / JSON
Detector environmental conditions	
Operating conditions*	**–20 °C to +60 °C** **) Detector. With battery/mast set max. +50 °C (battery limit)*
Protection class	**IP65**
Detector — dimensions and weight (article 100506)	
Device dimensions without bracket	17.8 × 11.9 × 10.9 cm (L × W × H)
Device weight with bracket	880 g
Battery/mast set (article 100507)	
Battery	$LiFePO_4$, 100 Ah / 1,280 Wh, 12.8 V nominal voltage
Permissible battery operating temperature	Discharging: −20 °C to +50 °C | charging: 0 °C to +45 °C
Recommended battery storage temperature	−5 °C to +35 °C
Battery box	Maximum charging time: 7.5 h | weight: 14.9 kg
Telescopic mast / system	Transport length (retracted): 1.78 m | Maximum system height: 6.05 m Weight of telescopic mast with mounting bracket: 2.1 kg

Detection Distances

2.7 mm focal length — field of view 93° / 61° (H / V)

Orientation	Person/bicycle	Car/van	Truck/bus
Near range	0–15 m	0–15 m	0–15 m*
Far range	7–20 m	7–40 m	7–60 m

* Long trucks/buses may not be fully within the field of view. Near range: detector mounted with a downward tilt. Far range: detector mounted with an almost horizontal alignment. Installation height 6 m, clear line of sight, sufficient lighting. The 6.0 mm focal length version is not available for hardware revision v3.

Scope of Delivery Article 100506

- 1 × BMA Mobile v3 (2.7 mm)
- 1 × hard-shell case
- 1 × reusable cable tie

Scope of Delivery Article 100507

- 1 × battery box with 100 Ah / 12 V battery
- 1 × charger 12 V/15 A incl. charging cable
- 1 × carbon telescopic mast
- 2 × tensioning straps, black
- 1 × mast lock
- 4 × padlocks

Dimensional Drawing Detector

