BERNARD GRUPPE

Data Sheet

BMA Embedded

BERNARD Mobility Analyser Embedded



The **BMA Embedded** analyses the video streams of connected IP cameras directly on the device. Objects within the image area are detected and classified. Events are transmitted as JSON via MQTT or passed to the traffic controller as switching signals via Quido or XKOPMV. The BMA Embedded is connected via Ethernet; central management takes place in the **Control Center**. It is the successor to B101 and B401.

Product variants:

- 100505 — BMA Embedded

Technical Data

General	
Function	Analysis of RTSP camera streams directly on the device
Typical applications	Adaptive traffic control; parking: entry/exit with ANPR (free flow), entry/exit counting, single space detection
Camera streams	Up to **16**, depending on the use case (see benchmark)
Licences	Traffic Detection Licence (TDL) included for the device For traffic data: data licence BDL or PDL per camera stream, sold separately
Camera Input	
Stream protocol	IP / RTSP
Video codec	**H.265** (H.264 is not supported)
Resolution / frame rate	max. **1080p @ 30 FPS**
Data Output	
Transmission protocol/format	MQTT / JSON
Data interfaces	MQTT, Data Center API
Connection to traffic controller	Quido (Ethernet I/O), XKOPMV

Electrical Characteristics	
Power supply	**12–48 V DC**
Connector	2-pin pluggable terminal block, push-in
Maximum power consumption	**15 W**
Typical power consumption during operation	7 W
Connectivity	
Network	Gigabit Ethernet (RJ45)
Network configuration	DHCP, IPv4
Status indicators	SYS (system status), NET (network status)
Environmental Conditions	
Operating conditions	**0 °C to +60 °C**
Humidity	≤ 95 % at 25 °C, non-condensing
Protection class	**IP20**
Cooling	Passive, fanless
Mounting, Dimensions and Weight	
Installation location	Control cabinet
Mounting type	Mounting plate (brackets) or TS 35 DIN rail to EN 60715 (clip)
Device dimensions without bracket	124 × 99 × 45 mm (L × W × H)
Device weight	550 g

Benchmark: Camera Streams per Use Case

Use case	Video stream	Max. camera streams
Adaptive traffic control	1080p @ 25 FPS	4
Parking – entry/exit with ANPR (free flow)	1080p @ 12.5 FPS	4
Parking – entry/exit counting	1080p @ 12.5 FPS	6
Parking – single space detection	1080p @ 5 FPS	16

The values apply when the device serves this use case exclusively; use cases can be mixed on one device. For traffic control, the included TDL is sufficient; for traffic data, each camera stream requires its own data licence (BDL or PDL).

Camera Requirements

- IP camera with RTSP stream
- Video codec H.265
- Camera reachable via the network

Cameras that only deliver H.264 are not compatible.

Network Requirements

- DHCP server, private IPv4 address
- Internet access min. 1 Mbit/s (down/up)
- Outbound open: 80, 443 (TCP/UDP), 123, 1194 (UDP), 5671, 8883 (TCP)

IPv6 is not supported. DHCP addresses must not be in the range 172.17.0.0/16.

Scope of Delivery

- 1 × BMA Embedded
- 1 × Quick-start installation guide
- 1 × Terminal block plug, push-in (screwless)
- 1 × Connection cable 1 m, 2 × 0.75 mm², with wire-end ferrules
- 2 × Mounting brackets (sheet metal)
- 1 × DIN rail clip
- Fixing kit: 4 screws, 2 countersunk screws, 4 square nuts

Not Included

- Cameras
- Power supply unit
- Ethernet cable
- Data licences BDL/PDL

Mounting Options



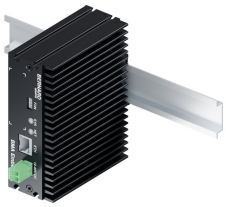
Vertical DIN rail
Clip on rear, device upright



Vertical DIN rail
Clip in side groove, connectors up



Horizontal DIN rail
Clip on rear, device flat



Horizontal DIN rail
Clip on rear, device upright



Vertical DIN rail
Clip on rear, device flat



Vertical DIN rail
Clip on underside, connectors up



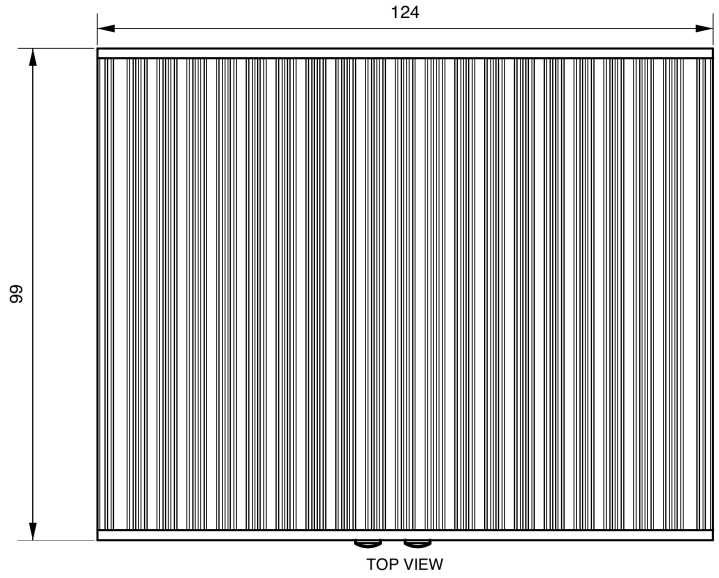
Plate mounting
Horizontal plate



Plate mounting
Vertical plate, connectors up

Mounting plate, DIN rail and fixing screws are shown for illustration only. Further mounting positions on request. For passive cooling, keep the heat-sink fins clear and ensure sufficient air circulation; vertical fin channels dissipate heat best.

Dimension Drawing



BMA EMBEDDED

Base device

Enclosure: 124 × 99 × 45 mm

Without mounts or terminal block plug.

Dimensions refer to the enclosure.

Dimensions in mm.