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Product Comparison

BPD and BMA TLC

Camera-based detection for traffic signals



BPD and **BMA TLC** replace inductive loops with a camera above the carriageway – without cutting the road. Both detect traffic permanently, analyse the image data directly on the device and switch potential-free contacts on the traffic light controller via the **BMC** – just like a loop. They are managed centrally in the **Control Center** or locally on the device.

Both devices are wired and connected to the BMC in the same way, so planning and installation are identical.

Which Device Fits?

BPD

BERNARD Presence Detector

- Up to 4 virtual loops
- 3 object classes: motor vehicles, pedestrians or cyclists
- Range up to 35 m
- Output via contacts only, no traffic data

BMA TLC

BERNARD Mobility Analyser Traffic Light Controller

- Up to 12 virtual loops
- 12+1 object classes, e.g. for public transport priority
- Longer range, optionally with 6.0 mm focal length
- Optional traffic data

Changing from BPD to BMA TLC at a later stage requires replacing the device.

System Integration

BPD or BMA TLC
Detection at the junction

→

BMC
Interface to the controller

→

Controller
Traffic light controller

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Differences

	BPD	BMA TLC
Application		
Typical use	Simple loop replacement for demand and extension with 3 object classes	Simple loop replacement or complex adaptive control of the entire approach with 12+1 object classes such as bus, tram etc.; optionally also traffic data
Product variants	100510 — 2.7 mm focal length	BMA-TLC-V3-27 — 2.7 mm focal length BMA-TLC-V3-60 — 6.0 mm focal length
Detection		
Virtual loops	Up to **4** via BMC *One potential-free contact per loop*	Up to **12** via BMC *One potential-free contact per loop*
Captured object classes	**3** — motor vehicles, pedestrians, cyclists *Selectable as a filter per virtual loop*	**12+1** — car, van, car with trailer, single unit truck, articulated truck, truck with trailer, bus, tram, motorbike, pedestrian, cyclist, scooter + other
Detection accuracy	Counting accuracy: **>95%** Classification main classes: **>95%** *At optimal alignment and calibration*	Counting accuracy: **>95%** Classification main classes: **>95%** Classification subclasses: **>90%** *At optimal alignment and calibration*
Frame rate	**5 FPS**	**30 FPS**
Range	Up to **35 m**	Up to **60 m** (2.7 mm), up to **90 m** (6.0 mm)
Data and Licences		
Traffic data output	**Not available**	Optional after traffic data unlock (LUP): MQTT / JSON (BDL) or Data Center (PDL)
Licences	Traffic Detection Licence (TDL) included	TDL included, BDL or PDL optional
Electrical Characteristics and Environment		
Average power consumption	**tbd** — measurement pending	Operation, IR off: 7 W Operation, IR on: 10 W
Operating conditions	**−20 °C to +60 °C**	**−34 °C to +74 °C**

Detection Distances

Near range / far range	Person/Bicycle	Car/Van	Truck/Bus
BPD (2.7 mm)	0–15 m / 7–20 m	0–15 m / 7–35 m	0–15 m* / 7–35 m
BMA TLC (2.7 mm)	0–15 m / 7–20 m	0–15 m / 7–40 m	0–15 m* / 7–60 m
BMA TLC (6.0 mm)	5–20 m / 10–40 m	5–20 m / 10–60 m	5–20 m* / 10–90 m

* Long trucks/buses may not be fully in view. Near range: tilted downwards, far range: close to the horizon. Height 6 m. BPD preliminary.

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Common Features

Detection	
Detection mode	Permanent, moving traffic; loop replacement without cutting the road
Detection model	Traffic & Parking Accuracy+
Lanes	Up to **4**
Day / Night	Yes / Yes (with IR illumination)
Connection	
Interface to the controller	Potential-free contacts via the BMC (not included)
Fault output	Optional, via the BMC
Management	Control Center or locally on the device (Service Interface)
Connectivity	LTE Cat-4, 18 bands global (B1 to B28, list in the data sheet)
SIM card	Nano-SIM, included
Mounting and Wiring	
Mounting type	Pole mount, clamping range Ø 60–150 mm
Mounting height	**3.5 to 12 m**
Horizontal mounting angle	0°–360° (recommended: ~15° for better classification)
Cable to the BMC	2-wire cable, up to **300 m** (1.5 mm², 30 V)
Electrical Characteristics and Environment	
Power supply	**24–30 V DC** (via BMC)
Maximum power consumption	**20 W**
Protection class	**IP65**
Dimensions and Weight	
Device dimensions without bracket	17.8 × 11.9 × 10.9 cm (L × W × H)
Device weight (with bracket)	880 g

Scope of Delivery BPD

- 1 × BPD
- 1 × mounting bracket
- 2 × hose clamps (Ø 60–150 mm, width 9 mm)
- 1 × power cable 15 m (0.75 mm²)
- 1 × Nano-SIM
- 1 × quickstart installation guide

Scope of Delivery BMA TLC

- 1 × BMA TLC
- 1 × mounting bracket
- 2 × hose clamps (Ø 60–150 mm, width 9 mm)
- 1 × power cable 15 m (0.75 mm²)
- 1 × Nano-SIM
- 1 × quickstart installation guide

Not included: mounting tools, power supply unit, Ethernet cable, BMC. BPD data preliminary, subject to change.