> Mechanical characteristics

Boxes	EPV versions	Size W x H x D (mm)	Available customer space (min) W x H x D (mm)	Materials	Protection rating	CdA
Cabinet 	EPV UNO	cabinet only : 210 x 629* x 130 with vandal-proof cover : 210 x 721 x 130	-	Aluminum	IP66 / IK10	0.301
Cabinet with SUN SHIELD casing	EPV UNO + vandal-proof cover + A SUN SHIELD EPV PM	248 x 721 x 160	-	Aluminum	IP66 / IK10	0.350
Cabinet 	EPV QUATTRO EPV NIGHT EPV SOLAR	278 x 751 x 269**	 208 x 170 x 106	Aluminum ABS/PC	IP65 / IK10	0.251
Cabinet with sunshade 	EPV QUATTRO EPV NIGHT EPV SOLAR + A SUN SHIELD	299 x 888 x 291**	 208 x 170 x 106	Aluminum ABS/PC ABS PMMA	IP65 / IK10	0.319
Solar panel	EPV SOLAR	640 x 550 x 35	-	-	IP65	0.156 (30° angle)

* including cable gland height: 33 mm
** D with mounting brackets: + 2 mm

Weight (kg)	EPV UNO	EPV QUATTRO	EPV NIGHT	EPV SOLAR	SUN SHIELD
	17.1 kg	17.5 kg	20.8 kg	17.2 kg + 7.1 kg	1.0 kg

Installation	Wall or post mounting Battery or pack to be installed once the cabinet is mounted on the support Plug and play product
Thermal management	Aluminium with fins: Optimised heat exchange surface Uniform heat distribution over the entire surface when required: No hot spots
Camera installation (EPV QUATTRO / NIGHT / SOLAR)	Removable cable cover plate for the mounting of a dome camera with a maximum diameter of 190 mm and a maximum weight of 4 kg (camera not included). Holes must be drilled as required.

> Electrical input characteristics

AC network voltage	175 V to 265 V AC single-phase
Frequency	45 Hz to 65 Hz
Class	1
Inrush current	12 A, limited by NTC (EPV UNO) 25 A, limited by NTC (EPV QUATTRO, EPV SOLAR) 45 A, limited by NTC (EPV NIGHT)
Neutral system	TT, TN
Protection against	primary short-circuit and differential mode shock waves
Primary current @ 230 V AC	1.0 A (EPV UNO) 0.6 A (EPV QUATTRO, EPV SOLAR) 1.3 A (EPV NIGHT)
Upstream circuit breaker to be provided	D curve
Lightning arrestor	Type 2 / 10 kA

> Electrical output characteristics

PoE

	EPV UNO	EPV QUATTRO / EPV NIGHT / EPV SOLAR
PoE ports	1 PoE/PoE+/HiPoE port	5 PoE/PoE+/passive PoE ports including 2 HiPoE ports
PoE/PoE+	IEEE 802.3af/at - 15 W / 30 W per port; Mode B	IEEE 802.3af/at - 15 W / 30 W per port; Mode B
HiPoE	IEEE 802.3bt - 15 W / 30 W / 60 W per port; power supply over 4 PoE pairs (4PPoE)	IEEE 802.3bt - 15 W / 30 W / 60 W / 90 W per port; power supply over 4 PoE pairs (4PPoE)
Passive PoE	1 passive PoE port : PoE 12 V or PoE 24 V (according to DC output)	55 V PoE: all PoE ports 12 V PoE / 24 V PoE: Combo port

Operating output

	EPV UNO	EPV QUATTRO / EPV NIGHT / EPV SOLAR
DC output	12 V DC or 24 V DC	
Current limitation	12 V DC : In = 5 A, U > 50% Un 24 V DC : In = 4 A, U > 50% Un	12 V DC : In = 7.2 A, U > 50% Un 24 V DC : In = 4.4 A, U > 50% Un
Output voltage regulation	≤ 0.5%	≤ 1%
LF ripple	12 V DC: 10 mV effective at In 24 V DC: 30 mV effective at In	<5 mV effective at In
Max. available power at DC output	12 V DC : 60 W 24 V DC : 96 W	

Power

	EPV UNO	EPV QUATTRO	EPV SOLAR	EPV NIGHT
Maximum power	100 W	120 W	120 W	240 W
Average power	80 W for 8h 40 W for 16h of autonomy	83 W for 8h 40 W for 16h of autonomy	83 W for 8h 40 W for 16h of autonomy	69 W for 10h 53 W for 6h 39 W for 3h of public lighting
EPV SOLAR	Hybrid power supply over solar panel			

Connections

	EPV UNO	EPV QUATTRO / EPV NIGHT / EPV SOLAR	
Mains	3 (2+PE) Screw terminals on the lighting arrester (230 V AC power supply)		
PoE/PoE+/HiPoE ports	1 RJ45 port (100 Mbps): Ethernet cable Category 5 or more, shielded	4 RJ45 ports (100 Mbps): Ethernet cable Category 5 or more, shielded, straight or twisted cables	
Combo ports	-	1 Combo port:	RJ45 port: Ethernet cable Category 5e or more, shielded, straight or twisted cables (1 Gbps)
			SFP port: SFP module 1 Gbps transceiver
Passive PoE port	1 RJ45 port (100 Mbps): Ethernet cable Category 5 or more, shielded	-	
DC Output	1 DC output: Screw terminal with plug-in connector with polarizing slot		
Digital Input	-	Screw terminal with plug-in connector with polarizing slot (1 input)	
Dry Contact	-	Screw terminal with plug-in connector with polarizing slot (open collector: 50 mA @ 60 V DC)	
Cable cross-section	Max. 2,5 mm²		
Cable feedthrough	Via 4 watertight cable glands	Via 10 watertight cable glands	

> Functional characteristics		
	EPV UNO	**EPV QUATTRO / EPV NIGHT / EPV SOLAR**
Intelligent start	Soft-start of the charging cycle (function active if T < 0°C).	
Intelligent Healthguard	Limits the amount of energy discharged to safeguard the battery and ensure its lifespan.	
Restart function	-	Allows manual remote control of the on/off function per PoE port / DC output.
DAM function	-	Allows the monitoring of the connected products with an automatic reboot in the event of a fault. Configurable per port.
Network filtering	Filters out power grid disturbances.	
Cooling	Via aluminium radiator. Intermittent fan assistance.	
Autonometer	Informs of the percentage of the remaining autonomy.	
Protections		
Against atmospheric or industrial overvoltage on primary (10 kA lightning arrester).		
Against too high currents on the auxiliary output.		
Against overcurrent and short circuits on the output by disconnectiong the ports.		
> Battery		
Latest generation Lithium-ion LiFePO4 Technology (no risk of thermal runaway).		
Lead-free, cadmium-free, 100% recyclable.		
Storage: 9 months without recharging.		
10 year service life.		
Advanced management settings, cell balancing, overcurrent and overvoltage protection.		
> Signaling		
	EPV UNO	**EPV QUATTRO / EPV NIGHT / EPV SOLAR**
LED	1 LED indicates the operation of the lightning arrestor	1 LED indicates the operation of the lightning arrestor 10 LEDs indicate the operation of the ports
> Environmental specifications		
Temperature		
Storage	0°C … +45°C	
Operating – in charge mode mains present	-10°C … +50°C	
Operating – in discharge mode mains absent	-10°C ... +50°C with derating	
Derating	Above -5°C the capacity is maximum; between -5°C and -10°C the capacity drops by 5%.	
Temperatures apply for start-up and operation.		
Solar radiation - SUN SHIELD		
Protection	The sunshade provides protection against solar radiation	
Surface temperature	-10°C … +80°C	
Altitude		
Above 2,000 m, the temperature decreases by 5% every 1,000 m		
Humidity		
0 to 100 % condensing		

> Switch properties (EPV QUATTRO/ EPV NIGHT/ EPV SOLAR)		
Switch	Layer 2	
Queues per port	4	
Max. number of VLANs	4094	
VLAN ID range	VID 1 to 4094	
Max. number of IGMP groups (multicast)	1024	
Number of MAC addresses	Up to 8000 MAC addresses	
Max. length Jumbo Frame	10 kB	
Packet buffer memory	1 Mbit	
Communication		
Communication speed	PoE ports	10 / 100 Mbps
	Combo port	100 / 1000 Mbps
Application layer protocols	HTTP, HTTPS, SNMP (v1, v2c, v3),	
Network layer protocols	IPv4, ICMP, DNS	
Management (Web, SNMP)		
Web GUI interface / Web server	Built-in switch configuration utility for browser-based device configuration (HTTPS). Supports configuration, system dashboard, maintenance and monitoring; Visualisation of the operating states	
IP address	Specific to each EPV	
Firmware update	Upgrade via web browser (HTTPS)	
SNMP	SNMP v1, v2c , v3	
Alarm management	SNMP trap sending	
> Switching characteristics (EPV QUATTRO/ EPV NIGHT/ EPV SOLAR)		
The configuration of the switch functions is done via the embedded website.		
Switch Layer 2		
VLAN	Supports up to 4K VLANs simultaneously (out of 4094 VLAN IDs); Port-based VLAN; 802.1Q tag-based VLAN	
IGMP v1/v2 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters; it supports 1024 multicast groups (source-specific multicasting is also supported)	
Uplink	Uplink mode limits the sending of multicast traffic on the combo port	
Log/SysLog	Records events locally and sends them to one or two specific servers	
NTP	Allows the switch clock to be synchronised with the network clock	
Security		
Website	HTTPS (HTTP operation possible) Management administrator account vs. user account	
HTTPS	Authentication and encryption with a root certificate (CA) Allows secure access to the switch management webserver	
SNMP	SNMP V3 with data encryption	
Protocol for securing exchanges	TLS (Transport Layer Security, versions 1.0 to 1.3) SSL not supported (banned by RFC 7568)	
Quality of Service		
Hardware Priority Queue	Supports 4 hardware queues	
Scheduling	Strict priority and weighted round-robin (WRR)	
	Queue assignment based on DSCP and class of service (802.1p/ CoS)	
Classification	Port based; 802.1p VLAN priority based; IPv4 precedence/ type of service (ToS) / DSCP based	
Green Ethernet		
Link detection	Compliant IEEE802.3az Energy Efficient Ethernet Task Force. Automatically turns off power on Gigabit Ethernet RJ45 port when detecting link down or Idle of client. Active mode is resumed without loss of any packets when the switch detects the link up.	
Cable length detection	Adjusts the signal strength based on the cable length. Reduces the power consumption for shorter cables.	
Eco Mode	Shifts automatically to power-saving mode.	

> Standards		
IEEE Standards		
IEEE 802.1D	Standard Spanning Tree	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.1w	Rapid Spanning Tree (RSTP)	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.1Q	VLAN	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3i	10BaseT	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3u	100BaseT(X) and 100BaseFX	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3ab	1000BaseT(X)	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3z	1000BaseX	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3x	Flow Control	EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3af	PoE	EPV UNO, EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3at	PoE+	EPV UNO, EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3bt	HiPoE (type 1 à 4)	EPV UNO, EPV QUATTRO, EPV NIGHT, EPV SOLAR
IEEE 802.3az	Energy Efficient Ethernet	EPV QUATTRO, EPV NIGHT, EPV SOLAR
Electrical and safety standards		
Safety	EN 62368-1 (2020) + A11 (2020), EN 62368-3 (2020)	
EMC - Immunity	EN 61000-6-1 (2007), EN 61000-6-2 (2019)	
EMC - Emissions	EN 61000-6-3 (2007), EN 61000-6-4 (2019)	
	EN 61000-3-2 (2019) (class A)	
	EN 55032 (2015) (class A)	
Other standards		
Solar radiation	EN 60068-2-5 (2018)	
Transport approval	UN 38.3	
> Accessories		
Pole or wall mounting kit		
Sunshade		
Camera mounting plate		
Battery		

*SLAT reserves the right to modify the characteristics of its products without prior notice.