



## enQube

---

### A revolution in submetering

Use enQube to read meters, sensors or measuring instruments of your property by means of automated remote transmission via secure communication routes.

With integrated mobile services, enQube is able to use GPRS, EDGE, and LTE (2.5G, 2.75G and 4G) for remote communication and guarantees maximum bandwidth and availability by using the optimum data service.

## In detail

---

- IP-based data transfer via mobile network (LTE, GPRS or EDGE)
- Secure data transmission via OpenVPN, IPsec or TLS
- Reading of wireless M-Bus devices in accordance with OMS standard
- Optional: data transfer with enQuant via LoRaWAN

<b>General</b>	<b>Housing</b>	
	Material:	moulded insulation case (UV resistant) for wall mounting
	Dimensions:	L x W x H = 186,5x180x50mm
<b>Operation and storage conditions</b>	Degree of protection:	IP54
	Storage temperature:	-40°C... +70°C
	Operating temperature:	-25°C... +55°C
<b>Voltage supply</b>	Nominal voltage:	230V AC +/- 10%
	Nominal frequency:	50Hz
	Average power consumption:	3W
<b>Connection technology</b>	Power supply:	cord with flat non-wirable two-pole plug
	Antennae:	SMA (female) for OMS; SMA (female) for GSM
	Ethernet interfaces:	RJ45 (8P8C) internal
<b>µC System</b>	Operating system:	embedded Linux
	Program memory:	256MB Flash
	Data storage:	2GB Flash
<b>Real time clock</b>	Accuracy:	+/-5ppm over complete operating temperature range
	Power reserve:	at least 6 days, typical 16 days
<b>Information security</b>	<b>Cryptography</b>	
	Standard:	in accordance with technical guideline BSI TR-02102
	Key lengths:	AES: AES-128, AES-192, AES-256, RSA: 2048bit
	Optional:	Open VPN/IPsec/TLS in accordance with BSI catalogue M5.148 (IT Grundschutz/IT communication)
<b>Protocols</b>	<b>Data transmission protocols for local communication</b>	
		- EN 13757-2, EN 13757-3 (EN 1434/M-Bus) - EN 13757-4 wireless M-Bus; range up to 1000 metres (LOS)
	<b>Optional</b>	- IEC 62056-21, IEC 61107 (VDEW 2.1) - IEC 13757-2 - IEC 62056-5-3, IEC 62056-6-1, IEC 62056-6-2, IEC 62056-7-6 (DLMS/COSEM)
<b>Data transmission protocols for remote communication</b>		- FTP(S), NTP, HTTP(S), DNS, PPP, SMTP(S) - optional: OpenVPN, IPsec, TLS

<b>Interfaces</b>	<b>Wireless M-Bus</b>	
	OMS standard:	IEC 13757-4
	Number of supported devices (meters, sensors and measuring instruments):	no limit
	Communication modes:	S, T and C
<b>Service interface Ethernet</b>	Type:	Ethernet interface
	Standards:	10BASE-T/100BASE-TX in accordance with IEEE 802.3 Clause 14 and 15, auto-crossover
<b>WAN interfaces</b>	<b>Mobile service</b>	
	Supported services and frequency ranges:	GPRS/EDGE 900/1800MHz LTE 800/900/1800/2100/2600MHz
	Data rates:	GPRS class 12, CS1-4, up to 86.5kbps EDGE class 12, MCS1-9, up to 236.8kbps LTE Cat. 1 uplink up to 4Mbps, downlink up to 10Mbps
	Reception sensitivity:	better than -108dBm
	SIM card format:	integrated micro SIM card reader for 1.8V and 3V SIM cards
<b>Indicators</b>	Operation:	bicoloured LED below the terminal cover
	Status:	bicoloured LED below the terminal cover
<b>Conformity/Standards</b>	Conformity:	CE
	EMV directive:	2014/30/EU
	RoHS directive:	2011/65/EU
	Low voltage directive (LVD):	2014/35/EU
	- applied standard:	IEC 60950-1
	Radio equipment directive (RED):	2014/53/EU
	<b>Applied standards</b>	
- emitted radiation:	IEC 61000-6-3, EN 55022 Class B	
- interference resistance:	IEC 61000-6-2, IEC 61000-4-2, -3, -4, -5, -11	