



Supplier requirements


of ZENNER International GmbH & Co. KG

Version 1.2

ZENNER

As a high-performance and quality-conscious manufacturer of hardware and software solutions, but also as a reseller of sensors and gateways, ZENNER International GmbH & Co. KG („ZRI“) is constantly looking for partners who support us, to fulfill the increasing quality requirements of our customers at all times. If you are interested in working with us, the following requirements must be met in the context of deliveries to us:

1. Within the scope of deliveries, all products must be secured against damage of any kind to such a way that damage due to indebtedness of the supplier can be ruled out. Thereby packaging material and outer packaging must be selected and used in a suitable form and size. Thereby same articles can be combined into one packaging unit. The package is also to be lined with fill material so that slipping of the actual packaged goods can be excluded.
2. With regard to the type of outer packaging and product packaging, as well as the securing of the actual goods to be transported, it is important to meet our perspective of a high level of customer orientation. In addition to the protection of the packaging material outlined in point 1, the appearance of the outer packaging and the respective product packaging must be in an impeccable condition and thus free from any defects.
3. The packaging of fragile and sensitive goods must be declared accordingly.
4. If a direct delivery to the customer of ZRI is agreed, a corresponding, neutral packaging must be used. If ZRI labeling is required, it will be specified by ZRI.
5. The packaging of single articles or collective packaging of articles of the same manufacturer must have a unique product designation, number of pieces and the corresponding article number. If ZRI has specified project- or order commission numbers, these must be visible on the respective packaging.
6. The marking of measuring equipment must be carried out in accordance with the regulations applicable to the type of approval (f. ex. MID) in conjunction with these requirements.
7. The documentation corresponding to the respective approval of the measuring equipment must at least be enclosed with the initial delivery and transmitted to us electronically (e.g. technical documentation at least in German and English, declaration of conformity, type examination certificate, etc). The enclosed instructions or those sent to ZRI electronically are either neutral or marked with the ZENNER logo.
8. The respective payload description or parser are part of the sensor technology documentation and must be accessible to ZRI at any time from the time of sale.
9. In addition, labelling of the delivery, packaging and measuring equipment as well as the specification of the delivery note must comply with the specifications of ZENNER International GmbH & Co. KG.
10. Depending on the type of device (e.g. calibrated meter, IoT-Sensor, IoT-Gateway), the device number / serial number must be implemented either according to DIN 43863-5 as a manufacturer-independent identification number for measuring equipment or according to the LoRaWAN specification as DevEUI or as agreed with ZRI.
11. Electronic delivery notes are currently to be delivered according to our specifications. In the future, delivery notes according to the VDE-FNN note „electronic delivery note“ will have to be generated in the current version and forwarded to the delivery of goods in advance.
12. Invoicing must be carried out with individual details of the order items and any booking / order numbers specified by ZRI.

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13. Only incoming invoices will be accepted at the same time and subsequently with a paper delivery note (incoming goods receipt), whereby each invoice must correspond exactly to a delivery note. The delivery note must have a clear reference to the corresponding order.
 14. Reliability in meeting schedules, delivery dates and in all areas of cooperation is a prerequisite. Only in exceptional cases and with prior consultation and mention of any plausible reasons a deviation can be approved.
 15. A high degree of flexibility in production and supply is also a criterion that affects our supplier rating system.
 16. All encryption keys required in the context of deliveries of communicative devices / sensors and associated relevant information (e.g. AES-key, DevEUI, JoinEUI etc) are included in printed form of each individual delivery. In addition, the keys per order have to be transmitted in digital form defined by ZRI. This is done by using the order number and indicating the project or commission number.
 17. Complaints, coming from ZRI or a ZRI customer, are immediately communicated to the supplier. The supplier must immediately arrange a rectification.
 18. The supplier must have a high sensitivity with regard to cost-conscious price behavior, e.g. the shipping costs must be explicitly stated and must be in line with the market.

The success of our company and our solutions depends largely on our own performance, but also on the performance of our suppliers.

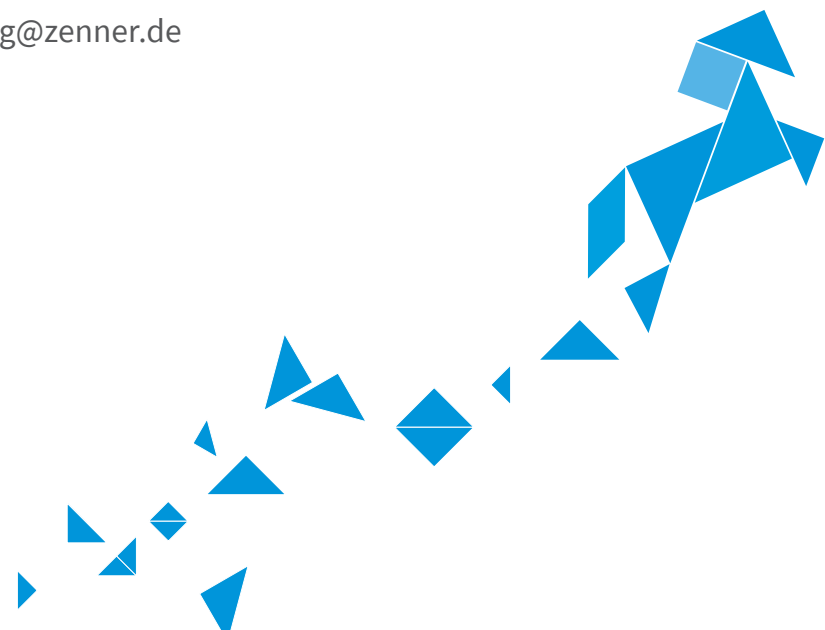
You come to a long-term cooperation with us through:

- technically qualified and competitive services
- accurate and reliable compliance with quality agreements
- constant exchange of information
- documentation of all relevant information

In order to sustainably secure the quality, we will carry out supplier audits if necessary, which also serve the further development of the supplier. We carry out regular supplier evaluations. The results are the basis for further cooperation.

Correspondence address purchase department:

Phone +49 (0) 711-9491 1399
E-Mail bestellung@zenner.de



Minimum information content delivery note / invoice:

Pos.	Delivery note / Invoice content	Example
1	Recipient and sender	-
2	Delivery note / Invoice no.	134567
3	order no. ZRI	4500....
4	Customer	Name
5	Order date	28.08.2018
6	Suppliers order number	AB07-12345
7	Person dealing with (supplier)	Name/Tel./E-Mail
8	Delivery- / Invoice date	28.08.2015
9	Customer number ZRI (if applicable)	0021454334
10	Commission no. (if specified)	PR-00012
11	Assignment object (if specified)	cost center 123456
12	Position no. listed consecutively	10, 20, ...
13	Device Type / Manufacturer Type designation	SM1020-ERS-2
14	ZRI article no. acc. order	123456
15	Year of approval / Year of manufacturing	2018
16	Delivery quantity per article type	100
17	Serial number	see specifications for labeling of the goods for ZENNER
18	Single price / Total price per position (only invoice)	Amount in € (net)

Minimum information content electronic delivery note:

The electronic delivery note is to be provided as a *.csv file (with fixed structures that are displayed in columns when opened in Excel).

Necessary information for the electronic delivery note:	Explanation	Example/Note	LoRa-device	wM-Bus-device
ZennerOrderNo	Order no. Zenner	starting with 45.....; 10 digits	yes	yes
DeliveryNoteNo	Delivery note number	2320457173	yes	yes
Item	Position no. in the delivery note	10, 20, 30, ...	yes	yes
ZennerMaterialNo	ZENNER-material-no.	160874, 6-digits	yes	yes
ZennerShortDescription	ZENNER material short text	MTKDE 10-260-1 R40 R80H CU C L868 DV max. 40-digits	yes	yes
PrintedSerialNo	serialno. printed or lasered on the device / on the label"	8ZRI0011995969 or 04B6480450001780 [14-digit manufacturer no. acc. DIN 43863-5 or 16-digit LoRa Device no.]	yes	yes
RadioTechnology	radio technology	LoRa; wM-Bus; sigfox; NB-IoT; ...	yes	yes
AES_Key	AES key (wireless M-Bus)	5A8470C4806F4A87CEF4D5F2D9855566; [device specific; factory key]	no	yes
RadioProtocolMode	RadioProtocolMode	S1; T1; C1; ...	no	yes
DeviceActivationMode	Method for activation of the device on the LoRaWAN-network	OTAA or ABP	yes	no
LoRaDeviceClass	LoRaDeviceClass	A; B; C	yes	no
JoinEUI	JoinEUI	04b6480000000000	yes	no
DevEUI	DevEUI	04b6480450002174	yes	no
AppKey	AppKey	9E24D464BEA957B8D12DC3FD2D4DA192	yes	no
NetworkKey	NetworkKey	9E24D464BEA957B8D12DC31122334455	yes	no
NwkSKey	network session key	empty if OTAA; 9E24D464BEA957B8D12DC3FFGGHHJJKK	yes	no
AppSKey	application session key	empty if OTAA; 9E24D464BEA957B8D12DC3WWEERR55TT	yes	no
DeviceAddr	DeviceAddr	empty if OTAA; 11223344	yes	no
MAC_Address	MAC_Address	only for Gateways; FC:C2:3D:0F:44:E1 QR code must be without ":"	yes	no
Frequency	Frequency band [MHz]	915, 868, 470, 433, ...	yes	yes
LoRaWAN_Version	LoRaWAN Spec. Version	1.0.1; 1.0.2; 1.1, ...	yes	no

The names and sequence are to be followed exactly as indicated in the left column of the table. Please see our CSV template file.

Target address for electronic delivery notes:

E-Mail delivery.note@zenner.com

Specifications for labeling of the goods for ZENNER:

The goal is the clear and efficient allocation of deliveries in our goods receipt.
In principle, every shipping unit must be provided with the ZENNER logo (b / w), ideally on the top right.

Required information on the individual packaging:

- ZENNER material description as plain text
- ZENNER material number as plain text and DataMatrix code
- Indication of the number of pieces
- Device serial number in plain text and as DataMatrix code
ATTENTION: When delivering LoRa gateways, the MAC address is also required
- Calibration year (if applicable)

Required information on the individual packaging:

Generally, articles are to be delivered in sorted cardboard boxes. If there are different items in a box, this must be marked by means of a separate sticker as a „mixed carton“. In such cases, the small quantities must be concentrated in a way that prevents mixing of loose articles.

- ZENNER material description as plain text
- ZENNER material number as plain text and DataMatrix code
- Indication of the number of pieces for each carton (big box)
- Device serial number in plain text (from...to) and as DataMatrix code
ATTENTION: When delivering LoRa gateways, the MAC address is also required. To do this, a QR code with the MAC address is to be attached to the outside of the box (without „:“) and the MAC address must be printed additionally in clear text
- Calibration year (if applicable)

Required information on the outside packaging:

Generally, articles are to be delivered in sorted cardboard boxes. If there are different items in a box, this must be marked by means of a separate sticker as a „mixed carton“. In such cases, the small quantities must be concentrated in a way that prevents mixing of loose articles.



ZENNER material description as plain text

ZENNER material number as plain text and DataMatrix code

Indication of the number of pieces for each carton (big box)

Device serial number in plain text (from...to) and as DataMatrix code (ideally use consecutive serial numbers)

Example labeling outer packaging / pallet cage:

Delivery from	Delivery to
Supplier with address	ZENNER International GmbH & Co. KG Incoming goods Talstraße 209619 Mulda
ZENNER material no.	ZENNER order no.
123456	45000....
Quantity (Piece)	Fabrication no. / Serial no.
99	00000001 00000099
Ident no.	Barcode
E ZRI04 1000 0001 to E ZRI04 1000 0099	 to 
Delivery date	
02.01.2016	

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