

The RFID headlamp tag serves for the automatic, contactless identification of motorcycles and vehicles (Automatic Vehicle Identification, AVI).

The label is adhered to the outside of the headlamp. The development of the RFID headlamp tag has been focused on a very high read range due to the special antenna on the headlamp and a passive function without a battery.

The UCODE DNA tag authentication uses an AES coprocessor and a 128-bit AES unique crypto key. The privacy protection of this tag is realised via an untraceable command and 128-bit AES group crypto key.

To protect the personalisation, both tags consists of two layers. The label material of the UCODE DNA tag is a combination of a hologram and PET layer, the label material of the the UCODE 7xm tag is a PET layer. The extra fragile antenna layer improves security against removal and re-use.



## > General Specifications

Order No.		52010467	52010478
Type		HLT UCODE DNA Monolabel	HLT-TP-K-C-7XM-M
Frequency range	[MHz]	865–928	
Delivery lot	[pcs]	500	
Dimension (standard)	[mm]	100 x 20	
Thickness	[µm]	210	
Operating ambient temperature range	[°C]	–40 to +85	
Storage temperature range	[°C]	–25 to +50 (recommended storage temperature: +25)	
Protocol		EPC Class1 Gen2v2/ISO 18000-63, ISO/IEC 29167-10	
Chip		UCODE DNA	UCODE 7xM
<b>Memory</b>			
EPC serialized	[bit]	224	96
User Memory	[bit]	3072	2048
Uniqe TID	[bit]	96	
Read Range (on non-metalised glass in center position)	[m]	typ. 12; max. 16*	
IT security		Tag authentication using AES coprocessor and 128-bit, Privacy protection via untraceable command and 128-bit, AES unique crypto key, AES group crypto key, ISO/IEC 29167-10	32-bit kill password to permanently disable the tag 32-bit access password
Programming		9-digit consecutive numbers in ASCII	
Serialisation		9 numeric characters in clear text; QR code	

\*This read range can only be guaranteed if all the storage and mounting conditions described in the *User Guide for Windshield Labels and Headlamp Tags* are met.

## > Key Applications

- Intelligent Transportation Systems (ITS)
- Electronic Toll Collection (ETC)
- Electronic Vehicle Registration (EVR)
- Smart City Applications

## > Mounting Instructions

- ▶ Position the label horizontally, in the lower part, on the headlamp; see the picture on the right.
- ▶ Make sure that the surface is clean and dry and and the applied label is not in contact with metal.

