

UHF INTEGRATED LONG-RANGE READERS

U650-M 12 dBi Long-Range UHF RFID Reader, 0–20 m, Wiegand/RS485/TCP/IP

The U650-M is the highest-gain reader in our integrated UHF series: a 12 dBi antenna in a 444 × 444 mm panel for wide vehicle gates, fleet depots and freight yards. It reads EPC Gen2 tags at 0–20 m (up to 35 m in high-power mode, tag and site permitting) and outputs Wiegand 26/34, RS232/RS485, USB or TCP/IP.

- 12 dBi, 0–20 m working range — the longest-range reader in the series, for entrances where the reader sits well back from the lane.
- RF power 0–30 dBm — adjustable in software, so you can trim the field to the lane and to local radio limits.
- FHSS in the ordered band — 902–928 MHz or 865–868 MHz, with other bands on request.
- Controller or software output — Wiegand 26/34, RS232/RS485 and USB on the U650-M; TCP/IP added on the U650-N.
- Triggered reading — one trigger input ties each read to a loop detector or photo-beam, so parked vehicles nearby are less likely to be reported.
- Large panel, pole mount — 444 × 444 × 74 mm and 2.55 kg, on a pole bracket for 40–80 mm poles.



General	
Model	U650-M (N-type) / U650-N (E-type with TCP/IP)
Product type	Long-range UHF RFID reader with integrated antenna
Frequency	902–928 MHz or 865–868 MHz, specified at order; other bands on request
Air interface	ISO 18000-6C, EPC Class 1 Gen 2
Antenna	Built-in, 12 dBi
RF output power	0–30 dBm, software adjustable
Frequency mode	FHSS (frequency hopping)

Tags & reading	
Supported tags	ISO 18000-6C / EPC Gen2 passive UHF tags (read and write)
Read range	0–20 m; up to 35 m in high-power mode (depends on tag and site)
Read speed	< 6 ms average per 64-bit single-tag read
Read mode	Continuous (active) or triggered (passive), set by software
Trigger input	1
Indicator	Buzzer

Interface & output	
Interfaces, U650-M	Wiegand, RS232, RS485, USB
Interfaces, U650-N	Wiegand, RS232, RS485, TCP/IP, USB
Wiegand formats	Wiegand 26 / 34
Serial / USB data	Format set in the configuration software
SDK and software	Sample code in C#, Visual C++, VB, Java and Delphi; test demo; tag read/write and issuing demo

Ordering versions

U650-M — N-type: Wiegand 26/34, RS232/RS485, USB

U650-N — E-type: adds TCP/IP Ethernet (Wiegand 26/34, RS232/RS485, TCP/IP, USB)

OEM / ODM options (confirmed per order)

- ◆ 902–928 MHz or 865–868 MHz build; other UHF bands on request
- ◆ RF power pre-set to your country's limit and read mode pre-set before shipment, on request
- ◆ Private label on the product label and carton, on request

Physical & environment	
Dimensions	444 × 444 × 74 mm
Weight	2.55 kg (4.65 kg packed)
Power supply	DC 12 V, 3 A
Operating temperature	-20 °C to +65 °C
Storage temperature	-45 °C to +95 °C
Mounting	Pole bracket for 40–80 mm poles, or wall
Color	Light gray

Works with

- ✓ ISO 18000-6C / EPC Gen2 passive UHF tags: windshield tags, hard tags for trucks and containers, cards and labels
- ✓ Parking and access controllers with a Wiegand 26 or 34 input
- ✓ Loop detectors or photo-beams on the trigger input
- ✓ Yard, fleet or gate software over RS232, RS485, USB, or TCP/IP on the U650-N

Not designed for

- × Short, tightly confined read zones — the U610-M or U620-M are easier to contain
- × 125 kHz or 13.56 MHz cards — see access control readers
- × Active (battery-powered) tags
- × Writing tags over Wiegand — use the SDK or demo over serial, USB or TCP/IP

- ◆ N-type U650-M or E-type U650-N with TCP/IP Ethernet
- ◆ Cable length and connector on request
- ◆ Supply with or without pole bracket and power adapter — confirmed in your quotation

Henrium · henrium.com · sales@henrium.com

Specifications describe the standard version and may change without notice. Read range depends on the card or tag, mounting and environment. Pricing, configuration, lead time and terms are confirmed in your quotation.