kapsch >>>
challenging limits

915 MHz Transponders

JANUS® Transponder Product Line

Kapsch TrafficCom is a leading and experienced global provider of high-performance intelligent transportation systems. With its end-to-end portfolio, Kapsch offers solutions across its customer's entire value chain — from single products and components, to fully integrated turnkey systems and solutions in the applications of electronic toll collection, commercial vehicle operations and highway traffic management. Kapsch 915 MHz products and components offer an open, modular and flexible design, allowing our customers to meet individual market demand.

JANUS transponders and readers are designed for high performance in both lane based and all-electronic toll collection environments, allowing agencies to select from a diverse array of implementation options.

Since 1993, Kapsch has provided this tried and true technology to agencies throughout North America. In April 2012, Kapsch released the TDM protocol which enables any manufacturer to produce TDM based transponders and readers with royalty-free license. This unprecedented support for nationwide tolling interoperability continues to demonstrate why Kapsch is the worldwide leader in all-electronic toll collection systems. In 2016, Kapsch introduced ISO 18000-63 (6C) RFID transponders to the North American market to offer customers a choice of protocols that would meet national interoperability.

JANUS Transponder Product Line

JANUS transponders are available in several form factors including both interior and exterior options, all designed to accommodate many functional and installation requirements. JANUS transponders are easy to install, can be moved in-between vehicles, and can be provided complete with retail packaging designed specifically for each agency. Kapsch has a number of optional services to make the packaging and shipment of transponders easier for our customers.

Technical Specifications

Operating frequency
915.75 MHz nominal Rx center frequency
915 MHz nominal Tx center frequency

Data format
Manchester Keyed Carrier

Data rate
500kbps ± 10% (uplink/downlink)

Error Checking
16-bit Cyclic Redundancy Check (CRC)

Regulatory
FCC Part 90 and Part 15, Industry Canada RSS-137

Data Capacity
TDM Transponders:
- 256 bits (including control bits for driver feedback and current state and history for HOTPass®)

TDMAv6 Transponders:
- 512 bits (including control bits for feedback) Enhanced feature: Battery monitoring, ID encryption

Kapsch TDM Transponders

Interior (TDM)
Removable.

Dimensions
- 3.7 x 1.9 x 0.9 in. / 94.0 x 48.3 x 23.0 mm

Weight
- 0.116 lbs. / 52.5 g.

Exterior (TDM)
License Plate, Bumper, Roof Mount.

Dimensions
- 8.4 x 1.8 x 1.1 in. / 213.4 x 45.7 x 27.9 mm

Weight
- 0.231 lbs. / 104.6 g.

Kapsch TDM & TDMAv6 Transponders

Kapsch TDM

Interior Driver Feedback
Removable

Dimensions
- 3.7 x 1.9 x 0.9 in. / 94.0 x 48.3 x 23.0 mm

Weight
- 0.118 lbs. / 53.4 g.

Interior Switchable HOTPass® (High-Occupancy)
Removable

Dimensions
- 4.0 x 2.7 x 1.0 in. / 101.6 x 28.6 x 25.4 mm

Weight
- 0.187 lbs. / 84.6 g.

Kapsch TDMAv6

Interior Driver Feedback
Removable

Dimensions
- 3.6 x 2.8 x 1.0 in. / 90.6 x 70.9 x 25.7 mm

Weight
- 0.198 lbs. / 88.8 g.

Interior Commercial Vehicle (CVO) By-Pass
Removable
Available without battery self-test button

Dimensions
- 4.0 x 2.6 x 0.9 in. / 101.6 x 66.0 x 23.6 mm

Weight
- 0.195 lbs. / 88.3 g.

Shown with battery self-test

Kapsch ISO 18000-63 (6C) Transponders

Kapsch 6C (RFID)*

Interior 6C (RFID)
Permanent

Dimensions
- 3.62 x 1.02 x 0.01 in. / 92.0 x 26.0 x 0.25 mm

Weight
- 0.005 lbs. / 2.2 g. *(incl. removable liner)*

Exterior 6C (RFID)
Permanent

Dimensions
- 3.54 x 0.47 x 0.01 in. / 90.0 x 12.0 x 0.25 mm

Weight
- 0.002 lbs. / 1.7 g. *(incl. buddy label & removable liner)*

Interior Switchable 6C (RFID)
Removable, 2 or 3-position

Dimensions
- 4.0 x 1.0 x 0.5 in. / 102 x 25.4 x 11.7 mm

Weight
- 0.038 lbs. / 17.2 g.

"Whatever the future might bring, Kapsch TrafficCom is always one step ahead in the right direction with products and solutions. Taking advantage of the newest technologies in practical applications is an integral part of the company strategy. Kapsch is committed to consistent value creation and technical excellence in our solutions for the real world needs of our customers."

JB Kendrick
President Kapsch TrafficCom North America

Kapsch TDM Programmer and Tester

The Kapsch TDM Programmer and Tester are ideal for toll and parking operators to ensure their transponders are programmed to their requirements.

Technical specifications

Operating frequency
- 915.75 MHz nominal center

Operating Temperature
- 0° C to 40° C

Storage Temperature
- -10° C to 55° C

Relative Humidity
- 35% to 85% non-condensing

Data format / Rate
- Manchester Keyed Carrier / 500kbps ± 10% (uplink/downlink)

Error Checking
- 16-bit Cyclic Redundancy Check (CRC)

Communication
- Serial Interface (RS 232) to a Personal Computer

Regulatory Radio
- FCC/IC approved RF module

TDM Tag Programmer (T500)

- Programs agency data
- Reads data stored
- Composed of an Antenna Unit and Tag Programming Unit
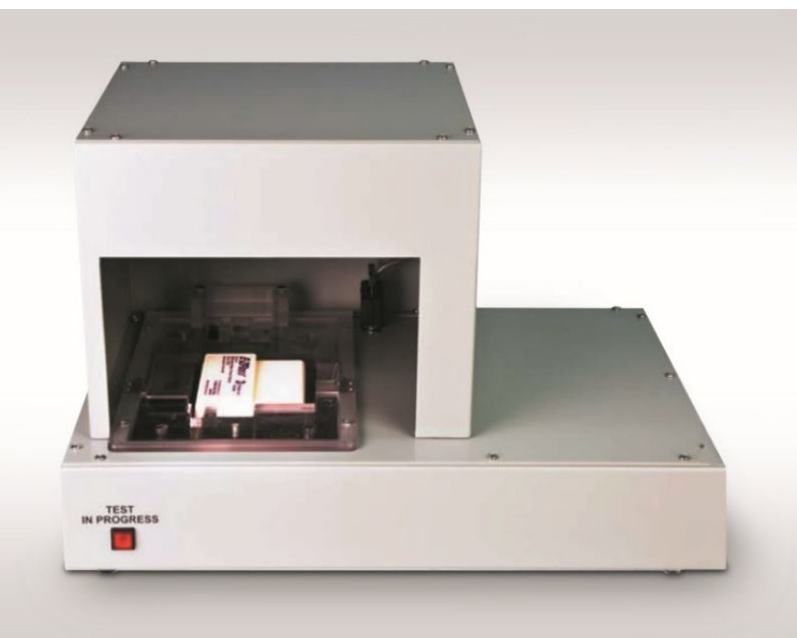
Dimensions (WxHxD)
- Auxiliary Unit: 16.0 x 10.5 x 12.0 in. / 406 x 267 x 305 mm
- Tag Prog. Unit: 7.0 x 13.0 x 13.5 in. / 178 x 330 x 343 mm

Weight
- Auxiliary Unit: 16.0 lbs. / 7.3 Kgs
- Tag Prog. Unit: 13.0 lbs. / 5.9 Kgs

Input Power / Consumption
- 40W @ 120 VAC

TDM Tag Tester (T600)

- Tests output power
- Tests input sensitivity
- Built-in barcode scanner

Dimensions (WxHxD)
- 17.0 x 11.2 x 12.0 in. / 432 x 285 x 305 mm

Weight
- 11.5 lbs. / 5.2 Kgs

Input Power / Consumption
- 80W @ 120 VAC

Kapsch TrafficCom

Kapsch TrafficCom is a globally renowned provider of transportation solutions for sustainable mobility with successful projects in more than 50 countries. Innovative solutions in the application fields of tolling, tolling services, traffic management and demand management contribute to a healthy world without congestion.

With one-stop-shop solutions, the company covers the entire value chain of customers, from components to design and implementation to the operation of systems.

Kapsch TrafficCom, headquartered in Vienna, has subsidiaries and branches in more than 25 countries and is listed in the Prime Market segment of the Vienna Stock Exchange (ticker symbol: KTCG). In its 2022/23 financial year, about 4,000 employees generated revenues of EUR 553 million.

>>> www.kapsch.net