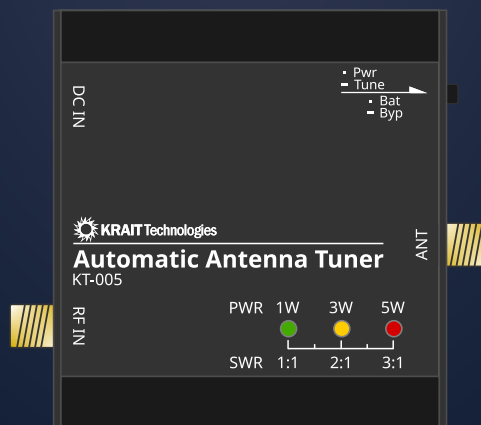


# World's Smallest QRP Automatic Antenna Tuner

54 x 55 x 24 mm



Actual size

# KT-005

## QRP Automatic Antenna Tuner

### FEATURES

- **World's smallest QRP Automatic Antenna Tuner (ATU) available on the market**
- Designed to be compatible electrical/mechanical with the QCX-mini®, QDX® and QMX® transceivers from QRP Labs®
- Great choice for all operators looking for the best portable equipment (POTA, SOTA,...)
- ATU can work with any type of radio and any mode (CW, WSPR, PSK, SSB,...)
- Auto Power Off function ensures zero power consumption after tuning
- High grade (Fujitsu) reliable mechanical latch type relay
- Durable lightweight aluminum housing: black anodised with laser-engraved symbols
- SMA female sockets for maximum miniaturization
- LED indicators for RF power level, VSWR value, battery voltage
- Low-battery detection when powered by a 9 V battery (6F22)
- Two control buttons for easy operation
- Reverse polarity protection

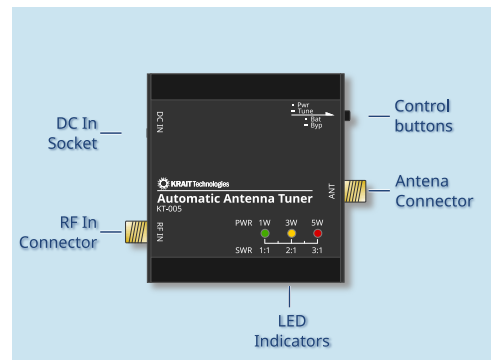
### SPECIFICATIONS

- Matching impedance range: 16 ~ 150 R to 50 R
- Tuning accuracy: Less than 1: 1.5 VSWR\*
- Network type: L-network with series L and shunt C
- C shunt is switched between the transmitter and antenna side
- 32 768 possible matching states due to 15 relays inside
- Minimum operating power: 0.5 W for autotuning
- Maximum operating power: 5 W (+37 dBm)
- Frequency range: 1.8–30 MHz
- Input impedance: 50 R
- Tuning time: 3-5 seconds average (15 seconds maximum)
- Current draw: up to 30 mA during tuning; 0.000 mA when tuned
- Dimensions: 54 x 55 x 24 mm; 2.1 x 2.2 x 0.9 in (W x H x D)\*\*
- Weight: 0.11 kg (3.88 oz)
- Connectors type: SMA female
- DC input: 5.5 x 2.1 male
- Power supply requirement: 7...18 VDC
- Operatable temperature: -10 °C to +60 °C; +14 °F to +140 °F

\*) except for half-wavelength or multiple-half-wavelength antennas

\*\*\*) without connectors

### LAYOUT



- On the left side:
  - DC input connector
  - RF input connector
- On the right side:
  - ANT output connector
  - two control buttons
- Three LEDs on the top side

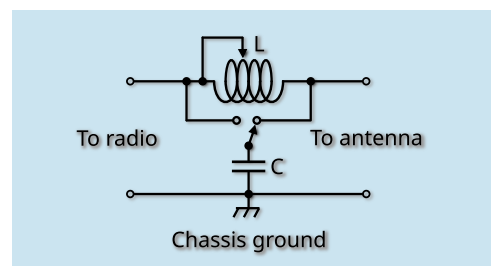
### ORDERING

- KT-005A - assembled ATU in black aluminum enclosure ready to use
- KT-005KE - kit for self-assembly (SMT components populated with programmed microcontroller) with THT/mechanical components/enclosure
- KT-005K - kit for self-assembly (SMT components populated with programmed microcontroller) with THT/mechanical components
- KT-005E - enclosure



Example of using Automatic Antenna Tuner (KT-005) with QCX-mini transceiver

### CIRCUIT DIAGRAM



- Used topology use one variable inductor and one variable capacitor
- The switchable capacitor together with the inductor can handle all possible loads (covers most of the Smith Chart)

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