ETHS - Wireless Temperature & Humidity Sensor (Stepcode DE and later)

EASYFIT
by EnOcean

ETHS is a wireless temperature & humidity sensor for EnOcean systems. Solar-powered it works absolutely maintenance-free. An integrated energy store allows operation for several days in total darkness. In dark surroundings, a battery can be retrofitted.

ETHS periodically measures temperature and humidity of its environment. Significant changes in the measured values are reported immediately. In addition, frequent updates (signs-of-life) are provided at regular intervals. The small housing can be easily attached to walls or furniture using the included adhesive pad. Single pack only: With the included metal stand, the sensor can be positioned on horizontal surfaces and the upper square cap can be replaced by additional included triangle cap.

Type	Ordering Code
ETHSA	S3001-C350 (single packs)
ETHSA	S3001-T350 (tray pack)
ETHSU	S3051-C350 (single packs)

Primary power supply	Indoor light (solar, incandescent, fluorescent, LED), 50-100000 lx
Backup power supply	Optional battery (CR1225, not included)
Radio standard / frequency / transmission power	ETHSA: EnOcean / 868.300 MHz / +5 dBm ETHSU: EnOcean / 902.875 MHz / +99 dBµV/m
Antenna / transmission range	Internal helix antenna / 300 m free field, typ. 30 m indoor
EnOcean Equipment Profile (EEP)	A5-04-03 (temperature & humidity measurement value), SIGNAL 0x06 (Energy Level Reporting), SIGNAL 0x0E (Entering Transport Mode)
Supported security algorithms	VAES 128, CMAC, RLC counter
Temperature sensor performance	Measurement range -20..+60°C, resolution 0.1K, accuracy ±0.5K across entire range
Humidity sensor performance	Measurement range 0-100% rh, resolution 0.4% rh, accuracy ±4.5% rh across entire range, ±3% rh between 20%...80% rh
Measurement cycle time	Once every 100s
Immediate transmission threshold	Change by >±0.5 K or >±3% rh versus last transmission
Sign-of-life transmission	Measurement data update once every 11-24 minutes (random)
Start-up time with empty energy storage	typ. <2.5 min @ 400 lx, 25°C
Sustain condition for battery free operation	min. 1200 lxh per day (25°C)
Operation time in darkness	> 10 days (energy storage fully charged, sign of life only, 25°C) [1]
Teach-in telegram trigger and indicator	Pushbutton and LED
Dimensions of unit without wall plate (no stand, 2 square caps)	76.2 x 22 x 15 mm
Dimensions of unit with wall plate	79 x 23.8 x 18.6 mm
Dimensions of unit with stand and triangle cap (single pack only)	85 mm x 30 mm x 30 mm
Housing color	White, similar to RAL 9010
Operating conditions	-20...+60 °C, 0...93% r.h., non-condensing, IP 40, indoor use only
Storage conditions	Recommended: +10...30 °C, <60% r.h., max. 36 months in transport mode [2]
Approvals	EU: CE/RED (ETHSA), US/CA: FCC/ISED (ETHSU)
Single unit packaging	50 single unit card boxes 32x32x99 mm (sensor unit, wall plate, stand, triangle cap, adhesive, instructions) in transport box 232x176x174 mm, total 2.3 kg
Tray packaging	56 units (sensor units, magnets, wall plates, adhesives, **NO stand, NO triangle cap**, NO instructions) in transport card box 232x176x174 mm, total 2.2 kg

Note 1: Following effects lead to shorter dark time operation: Long time exposure of the unit to temperatures higher 30°C will gradually degrade the energy storage performance over life time. Lower temperatures than 0°C will noticeable reduce capacity of energy store, but temporarily only

Note 2: Recharge energy storage after 36 months in total darkness to maintain its performance.