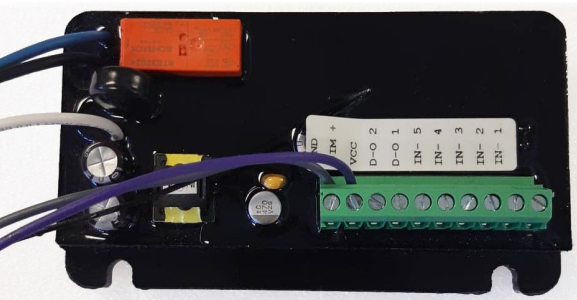
PRODUCT OVERVIEW



Dimonoff's fourth generation (H4) RTM node is a compact, addressable internal module that facilitates the creation of smart lighting control systems.

The RTM enables wireless control, monitoring and metering, as well as integration of digital and analog inputs as well as sensors. It also allows the use of two outputs for the control of other smart devices. It suits both small and large networks that use state-of-the-art features.

No wires to run means simpler control and automation projects, especially retrofit lighting applications and decorative lights.

AT A GLANCE

- Voltage on the H4 is auto-calibrated. This results in both more precise metering and fewer false alarms.
- Enhanced CUMULATIVE revenue-grade power metering (+/- 0.5% accuracy) with multiple user-configurable alarms.
- A tilt sensor measuring the earth's gravity angles changes is included.
- Includes real-time operating system (RTOS) that can run multiple simultaneous tasks with minimal latency.
- Complete integration with Dimonoff's Gateways and Dimonoff Smart Central Management System (SCMS) and DOO Express software platform.
- On/off switching and flexible dimming, adjustable minimum and maximum levels with 1% steps.
- Compatible with BACnet via Dimonoff gateways.
- Programmable delay and dimming level when power is restored following a power outage for peak shaving.
- Built-in demand response (load shedding) feature.
- Lumen depreciation compensation over time available with Dimonoff | SCMS.
- Dynamic level adjustment for daylight harvesting, RP-8 optimal roadway and interior lighting design and similar applications.
- Compatible with Dimonoff low-voltage occupancy and lux sensors (daylight harvesting), photocells and switches enabling energy conservation.
- Secondary low-voltage outputs for driving another external load.
- Any node with a sensor can be set as a master and control several nodes.
- Each node can be part of 14 different groups and 30 separate scenarios.
- Generic timer features available enabling execution of a series of instructions at set intervals.
- Energy consumption reporting with Dimonoff | SCMS.
- Dimonoff offers also **2 options to control your colored LEDs with the RTM node: CK and DMX**. To watch a video on that subject: https://www.youtube.com/watch?v=uZNalXoTTwo

RTM nodes fit conveniently inside fixtures. They typically reside inside a luminaire with the antenna made accessible outside the luminaire to establish the RF mesh network. They can also be fitted in NEMA4 enclosures for mounting outside fixtures. In either case, colour-coded wiring simplifies the installation process. The Dimonoff mobile scanning app compatible enables quick, simple and economical commissioning. Upon installation, it performs both an instant functional test and geolocation.

LUMINAIRES

RTM nodes feature high-capacity long-life nodes. One node works with voltages ranging from 110 to 480 Vac and 50/60 Hz. The adaptable 0-10 V sink and source output or the DALI interface is compatible with most dimming drivers. One RTM node can control up to 4 drivers (5 or 6 may be possible depending on the load).

COMMUNICATION

The RTM node is built for low-latency communication, even in large networks. The fully bidirectional long-range RF mesh system, suitable for both rural and urban areas, works wirelessly over a robust 2.4 GHz or 900 MHz ISM (Industrial, Scientific and Medical certified) meshed radio signal.

Three radio options:

- **Digi XBee PRO 2.4 GHz**
- **Digi XBee PRO 900 MHz**
- **Wi-SUN FAN 1.1 900 MHz**

SECURITY AND MAINTENANCE

Communication between devices flows through a private radio network and is protected using 128-bit AES encryption (AES 256-bit encryption available with Digi XBee PRO radio option). Each node is uniquely serialized with an individual address. The node firmware can be upgraded over-the-air.

Wi-SUN FAN adds certificate-based mutual authentication (802.1X/EAP-TLS) and network-wide key rotation.

SPECIFICATIONS

ELECTRICAL

- Operating voltage: **110 to 480 Vac** (-13 % / +6 %), 50 & 60 Hz. Optional 24 V auxiliary power supply.
- **Less than 1-Watt** node consumption (may vary according to specific configuration)
- Maximum load amperage: 7 Amps (7 A at 120-240 Vac, 5 A at 277-347 Vac and 2 A at 480 Vac)
- Power metering:power **(+/- 0.5% accuracy),** amperage, voltage, Power factor, energy, burn-time and cycles counters - C12.20 (ANSI C136.50) metering protocol compliance
- Meets the standard IEC61000-4-5 and EN61000-4-5: immunity to radiated electromagnetic fields.
- Surge protection (6 kV / 3 kA)

ELECTRONIC

- **0-10V**: for all types of 0-10V drivers and ballasts using a source or collector-type power supply up to 10 mA.
- **DALI:** Bus Power supply: 24 mA / DALI load: 2mA (with optional 24 V auxiliary power supply)
- **5 digital / analog inputs:** 0-30 Vdc (3 mA max at 30 Vdc), for: photocell, motion sensor, switches, lux meter, generic sensor, etc.
- **2 digital outputs:** sink (max: 50 mA total) or source 2.4 mA (10 K pull-up).
- **Aux power supply:** 24 Vdc - 50 mA.

RADIO COMMUNICATIONS

RME	Digi XBee PRO 2.4 GHz	Digi XBee PRO 900 MHz	Wi-SUN FAN 1.1 900 MHz
Recommended Range	○ Up to 300 meters/1000 ft between nodes ○ Communication range may vary widely depending on environmental factors.		
Transmit Power	63 mW (+19 dBm)	250 mW (+24 dBm)	40 mW (+16 dBm)
Receiver Sensitivity	- 95 dBm	- 103 dBm	- 111 dBm

OPTIONS

- NEMA4 enclosure (model: 1554k2GY / 6.3 x 3.5 x 3.5 in)
- 0-10 V or DALI lamp driver
- Bi-directional serial communication port (TTL or RS-232)
- **DMX or CK RGB control**

ENVIRONMENTAL

- Ambient temperature range: -40 °C to +70 °C (-40 °F to 158°F)
  - *Note: integrator to verify actual internal maximum fixture temperature
- Relative humidity: up to 99 % non-condensing
- Adaptative lighting: Manual on/auto-off, auto-on/auto-off and grace period compliant (complies with N.Y. LL48 and many other energy regulations)

LISTINGS

- U.S. FCC (Digi XBee PRO 2.4 GHz): MCQ-PS2CTH, Canada IC: 1846A-PS2CTH, Europe CE: ETSI, Australia: C-TICK, Japan: TELEC
- U.S. FCC (Digi XBee PRO 900 MHz) Part 15.247 Class A: MCQ-XB900HP
- UL94 V-0 flame retardant ABS with epoxy molding
- ANSI/UL 8750, CSA 22.2 No. 250.13-14 (Dimonoff file ID E481666)
- DLC & RoHS compliant

WARRANTY

- Limited 5-year warranty
- Up to 10-year extended available

DIMENSIONS (Length X Width X Max Height) (IN/MM)

4.75 x 2.65 x 1.53 in / 120.65 x 67.31 x 38.9 mm

WEIGHT

0.6 lbs / 272 g

WIRING DIAGRAM

Please refer to the wiring diagram's documents.

ORDERING INFORMATION

RTM	Radio Type	Driver (0-10V by Default)	Options
	XBP-IO: Digi XBee PRO 2.4 GHz **9HP-IO:** Digi XBee PRO 900 MHz **WiSUN:** SiLabs EFR32FG25 - 900 MHz	**DALI:** DALI	**SENSOR**: Example: Snow Sensor **N4**: NEMA4 enclosure **CK**: RGB wireless control **DMX**: RGB wireless control