

# S47 Series



## Ruggedised, low-power radio nodes

S40 Series covers most of the needs for metering or environmental monitoring applications



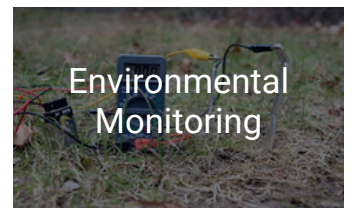
A probe for every need

Pulse counting, light pulse counting, temperature, relative humidity, and more to come...

Multiple radios



LoRaWAN™, Wireless M-Bus, and more to come...



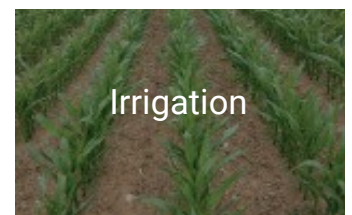
Rugged

IP68-rated, tropicalised, non-potted design lets the user properly dispose of, or replace, the battery

Ultra-long battery life



Single C battery-operated for field operation up to 10 years



# S47 SERIES SPECIFICATIONS

## HARDWARE

**MATERIAL:** (f1) UV-resistant per UL 746C, HB non-flammable per UL 94, poly-carbonate plus polybutylene terephthalate ("PBT+PC")

**DIMENSIONS (MM)** 44 x 73.3 x 44 without connectors

**WEIGHT AND SPQ** Approx. 180 g; commercial flight-friendly 15-piece SPQ (< 5 kg)

**TEMPERATURE** ✓ Operating: -20 °C ~ +70 °C

**RANGE** ✓ Storage: -40 °C ~ +85 °C

**POWER** 30.6 Wh, non-rechargeable, lithium thionyl chloride C battery

✓ 32-bit ARM Cortex™-M3 architecture; running at 40 MHz

✓ Built-in 128 KB \*Flash memory\* and 32 KB RAM

**MCU** ✓ Built-in cryptographic engine supporting (i) AES 128- and 256-bit keys; and (ii) ECC B/K163, B/K233, P192, P224, P256; and (iii) SHA-1 and SHA-2 (SHA-224 and SHA-256) Immersion at up to, per IEC 60529 standard:

**TÜV-CERTIFIED** ✓ 1.0 metre for up to forty minutes (external antenna models); or

**IP68 RATING** PCB/A conformally coated against condensation, if the case arises

## SOFTWARE

**TIME STAMPING** Yes, courtesy of a network-adjustable RTC with a less than three (3) seconds per month drift

**DATA HISTORY** 48 records

## OPERATION AND CONTROLS

**ESTIMATED LIFE SPAN** S47: twelve (12) years with a 30- (models 03, 04; 08; 01, 07, 10, 11) or 60-minute (models 06; 02, 05, 09) transmission cycle

**MAGNETIC SWITCH PERATING** ON / OFF; Reset

**STATUS LED** One, white

**TRANSMISSION CYCLE** Adjustable over the air in one-minute increments, from 2 mn to 1,440 mn; factory-set at 30 mn in case of S47

**S47 ACTIVATION METHOD** Over-the-air activation (OTAA)

## RADIO TYPE

**LONG RANGE (LORA®)** ✓ LoRa® modulation (factory setting AS923) Optional AU915

**LORAWAN** Class A, with a -140 dBm receiving sensitivity and a max. EIRP of: ✓ 16 dBm in AS923

## A PROBE FOR EVERY NEED

**PULSE COUNTING** Three AWG24 stripped wires – cf. 1st picture below – with:  
✓ 219 µA current ✓ 0.2 mW max. power  
✓ 670 µF capacitance ✓ 330 mH inductance  
✓ 25 ms max. pulse duration ✓ 15 Hz max. frequency

**Open/Closed contact** Suitable for door open/close, float switch etc.  
✓ via a stainless-steel, 10 mm-wide, waterproof probe – cf

**SURFACE TEMPERATURE MEASUREMENT** ✓ -50 °C ~ +150 °C range; ±0.3 °C accuracy from +10 °C to +90 °C, ±0.6 °C from -20 °C to +110 °C, ±1.2 °C otherwise

**RELATIVE HUMIDITY / AMBIENT TEMPERATURE MEASUREMENT** ✓ via a stainless-steel, 10 mm-wide probe – cf. 4th picture below  
✓ HUMIDITY: 0 % RH ~ 100 % RH range; ±2 % RH accuracy ✓ TEMPERATURE: -40 °C ~ +125 °C range; ±0.5 °C accuracy from +5 °C to +50 °C

**ANY CURRENT LOOP SENSOR READING** ✓ Two AWG24 stripped wires to connect to any current loop (aka 4 mA ~ 20 mA) sensor  
✓ Please consult us for any 0 V ~ 10 V or 0 V ~ 5 V sensor (RTD?)

**FLASH MEMORY** \*FACTORY OPTIONS\* (subject to MOQ and other considerations)  
Doubled to 256 KB

## ACCESSORIES

**EXTERNAL ANTENNAS** High radiation efficiency, straight dipole terminal antennas  
✓ A48H0 for S41xxUS, S47xx1S, S47xx9S, S47xxAS models  
✓ A49H0 for S47xx2S, S47xx5S, S47xx7S, S47xx8S models

**RIGHT ANGLE ADAPTIOR** For either A48H0 or A49H0, when and if an S40 unit is mounted horizontally

**DIN RAIL CLIP** 2½ U width; doubling as a 2-hole mounting bracket

# S47 SERIES SPECIFICATIONS



S47 unit with its optional DIN Rail clip / Mounting bracket



Termination of the wire harness of the Pulse counter or event logging



2 or 4 pulse input/event



Surface temperature probe (waterproof)



Relative humidity / Ambient temperature probe

MODEL NAME	RADIO TYPE	FREQUENCIES (MH)	PLANNED /OBTAINED CERTIFICATONS	FCS	ORDER CODE					
					PULSE COUNTER	LIGHT PULSE COUNTER	THERMOMETER	HYGROMETER	ANY CURRENT LOOP SENSOR	
S47	LoRaWAN® (certified by TÜV)					S4701AS	S4702AS	S4703AS	S4704AS	S4705AS
						S47012S	S47022S	S47032S	S47042S	S47052S
						S47015S	S47025S	S47035S	S47045S	S47055S
		'AU915'			TBD	S47017S	S47027S	S47037S	S47047S	S47057S
		'AS923'	915 ~ 928	RCM		S47018S	S47028S	S47038S	S47048S	S47058S
			923							