

Datasheet

Universal comfort sensor for smart buildings

Part No: UMS



Bisly UMS is a multifunctional room sensor for building automation applications. UMS is dedicated to working in secure Bisly building automation infrastructure. UMS has following functionalities:

- Air purity sensing of CO₂, VOC and dust particle concentration (options)
- Air temperature and humidity sensing
- Ambient light color and intensity sensing
- Human presence sensing with EN 50130-4 compliant silicon relay output for security system integration
- Encrypted communication in Bisly RS485 device network
- Additional RS485 interfaces for legacy automation system integration
- 1Wire sensor interface (optional)
- Visual RGB LEDs for immediate user feedback

Electrical Data

Supply voltage	16 - 30 VDC, reverse polarity protected
Power consumption	0.7W avg @24V 1,5W max @24V all sensors active, sensor internal overcurrent protection at ca 0.7A
Security	<ul style="list-style-type: none"> Fully encrypted RS485 communication data Unique AES128 encryption keys for each device Remotely upgradable software
Digital / analog inputs	<p>2 inputs, software configurable as DIN or AIN</p> <p>Digital input operation:</p> <ul style="list-style-type: none"> internal 2kOhm pullup to +5V active low level $\leq 2V$ input low pass filter $\tau=150\mu s$ 24VDC tolerant operation $\geq -5V$ reverse voltage protected 8kV ESD (EN 61000-4-2) protected <p>Analog input operation:</p> <ul style="list-style-type: none"> 12-bit resolution Input voltage full scale 3.3V internal 2kOhm pullup to +5V input low pass filter $\tau=150\mu s$ 24VDC tolerant operation $\geq -5V$ reverse voltage protected 8kV ESD (EN 61000-4-2) protected
Sensors	<ul style="list-style-type: none"> Air temperature: $\pm 0.5^\circ C$ (max), -10 to $85^\circ C$ Air relative humidity: $\pm 4\%$ rH (max), $0 - 80\%$ rH. CO2 concentration: $0 - 2000$ ppm, ± 150 ppm $\pm 0,5\%$ of reading Motion detection (PIR sensor): 4 m human detection range in normal conditions, in average @ $\Delta T \geq 5^\circ C$, $v = 1$ m/s, installation height 2.8m Light intensity: software controllable range, up to 20 bit resolution @550nm Light color: up to 16 bit resolution @400 - 680nm Air small particles concentration (optional): software selectable particles size $1.0 - 2.5 \mu m$, $2.5 - 10 \mu m$; counting efficiency 98% @$\geq 0.5\mu m$; $\pm 10\%$ @$100 - 500 \mu g/m^3$, $\pm 10\mu g/m^3$ @$0 - 100\mu g/m^3$ VOC (eTVOC) sensor (optional): $0 - 30000$ ppb range



Outputs

- RGB LEDs, software controlled color and intensity

	<ul style="list-style-type: none"> • Direct reed relay output of PIR motion sensor: $\leq 1.5\text{kV RMS I/O}$ insulation voltage, 80mA continuous load current, 50VDC max, meets requirements of EN 50130-4 (Security Systems) • 2x Digital output, open collector, max 24VDC 300mA continuous, 2kV ESD (EN 61000-4-2) protected
Communication interfaces	<ul style="list-style-type: none"> • RS485 Bisly secure network interface , XXXkbps, $\pm 50\text{V}$ overvoltage and 4kV ESD (EN 61000-4-2) protected, without internal bus termination • RS485 external interface, software programmable, $\pm 50\text{V}$ overvoltage and 4kV ESD (EN 61000-4-2) protected, without internal bus termination • 1-Wire master (optional, 20 kbps, 5V bus, phantom power capable, 4kV ESD (EN 61000-4-2) protected
Ambient operating temperature	-10 ... 50°C
Humidity	max. 90% r.H. (non condensing)

Product Characteristics

Mounting type	Screw mount
Colours	White, Black
Finish	Matte
Flammability of casing	Fire retardant according to UL94 v0
Total weight	125 g
Product dimensions	98 x 110 x 40mm / 3.85 x 4.33 x 1.57" (LxWxH), 9 division units

Certifications & Standards

Standards compliance	EN 63044-1, EN 63044-3, EN 63044-5 EN 50130-4, EN 60950-1 (PIR direct output)
----------------------	--

Installation must be carried out by a qualified electrician in accordance with the relevant regulations.

Published by:

Bisly®
 info@bisly.com
 www.bisly.com