Technical Data Sheet

Product Name

IntelliGate AIR

This product aggregates and processes data, controls devices and reads sensors, making it ideal for Edge Computing. The hardware is designed robust and reliable for the industrial usage. It is intended to be a device incorporating communications and the control algorithms necessary for the regulation of the fans connected to it. The product is designed to be used in conjunction with ebm-papst fans.

General Data

Supply	110-400V AC
Dimensions with cable glands (H x W x D)	140 x 165 x 45 mm
Conformity	CE

Environmental Requirements

Operating Altitude	≤ 2000m (6562 ft.)
Temperature	-40 to +60°C
Relative Humidity	<80% non-condensing
Pollution Degree	2
Overvoltage Protection	II
Mains AC Voltage Protection	±10%
Ingress Protection Code	IP66

Inputs and Outputs

- 1x 0-10V Input
- 1x 0-10V Output
- 1x +10V Output (max 10mA)
- 1x Tacho-In (open collector type)
- 1x Status Relay (normally open free contacts; contact rating 250VAC@3A)

Supported Features

- Wi-Fi 802.11 b / g / n
- 1x RJ45 Ethernet port according to IEEE 802.3 (100Mbs)
- 1x RS-485 Interface
- 1x I²C Digital Connector
- Internal temperature sensor
- 2x External temperature sensor PT1000
- 1x hose-connection to differential pressure sensor (pressure range +/- 500Pa)
- Modbus RTU Autoaddressing of ebm-papst fans
- Firmware Update Over-The-Air
- Modbus TCP ↔ Modbus RTU Gateway
- Scheduler (5 segments per day)
- Configurable Modbus RTU registers to read and control any Modbus RTU device
- Configuration via Web Browser
- Cloud Connection via Ethernet or Wi-Fi
- Alarm Output
- "Remote powered fan" Warning

Power Consumption

The power consumption of the different elements according to the datasheets are listed in the following table:

Hardware	Min.	Typ.	Max.	Unit	Conditions
MCU	0.001	0.1	0.3	W	-
Wi-Fi Operation	1.0	1.1	1.2	W	Continuous transmission

Wi-Fi Specifications

The output power and the receive sensitivity for the different wireless-networking standards, the available data rates for each used IEEE 802.11 network PHY standard and the modulation techniques are listed in the following table:

Technical Specifications										
Output Power	802.11b:	18.5dBm ± 1.5dBm @ 11Mbps								
	802.11g:	13dBm ± 1.0dBm @ 54Mbps								
	802.11gn HT20:	13dBm ± 1.0dBm @ MCS7								
	802.11gn HT40:	12dBm ± 1.0dBm @ MCS7								
Receive Sensitivity	802.11b:	-89dBm ± 2dBm @ 11 Mbps								
	802.11g:	-74dBm ± 2dBm @ 54 Mbps								
	802.11gn HT20:	-71dBm ± 2dBm @ MCS7								
	802.11gn HT40:	-69dBm ± 2dBm @ MCS7								
Standards	IEEE 802.11b	11 Mbps	5.5 Mbps	2 Mbps	1 Mbps					
	IEEE 802.11g	54 Mbps	48 Mbps	36 Mbps	24 Mbps	18 Mbps	12 Mbps	9 Mbps	6 Mbps	Auto.
		Fallback to 5.5Mbps, 2Mbps, 1Mbps								
	IEEE 802.11n	20MHz	65Mbps @ 800GI, 72.2Mbps @ 400GI (Max.)							
		40MHz	135Mbps @ 800GI, 150Mbps @ 400GI (Max.)							
Channel Number	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2412	2417	2422	2427	2432	2437	2442	2447	2452	2415	2462
Modulation Techniques	OFDM: BPSK, QPSK, 16QAM, 64QAM DSSS: DBPSK, DQPSK, CCK										