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Vaisala Data Logger QML201C

The Vaisala Data Logger QML201C

Features/Benefits

- Easy to install, economical to maintain and upgrade
- Field-proven reliability and accuracy in harsh environments
- Low power consumption
- Extensive calculation and data logging capability
- Good expandability and high level of customization through open and modular design
- Built-in TCP/IP connectivity
- Compact design

The QML201C

The Vaisala Data Logger QML201C incorporates Vaisala's proven sensor technology. A 32-bit central processing unit (CPU), 24-bit A/D conversion (ADC), autocalibration of the ADC and measurement electronics coupled with advanced data quality control and validation software all ensure the accuracy of data measurement.

Easy to use

Sensor measurements, statistical calculations, data logging and data transmissions are performed according to a user-configured Vaisala Setup Software Lizard. The software has many setup options and advanced features.

Expandability

The systems architecture enables the QML201C to be easily upgraded with new sensors, calculations, output formats, and logging schedules at any time to accommodate users' changing requirements.

The basic system provides RS-232, RS-485 and SDI-12 ports for interfacing with almost any type of telemetry, terminal, displays, and smart sensors. With optional plug-in modules the number of serial ports can be enhanced from 3 up to 9 ports, enabling multiple RS-232, RS-485, SDI-12 and Ethernet connections.

The QML201C data logger is also expandable with a multiplexer unit offering additional 10 differential analog channels or even another QML201C unit. A digital I/O unit adds 8 digital outputs and 8 digital inputs for sensors, power optimizing and unmanned control functions based on user defined requirements.

Technical data

General

Processor	33 MHz, 32-bit Motorola
Memory	4MB RAM and 4 MB program flash
A/D conversion	24 bit
Data logging memory	3.3 MB internal flash memory Up to 2GB on optional, compact flash memory card
Sensor inputs	10 analog inputs (20 single-ended inputs) 2 counter/frequency inputs Internal channel for BARO-1 pressure transducer
SERIAL COMMUNICATION	
Standard	one RS-232, RS-485 (two-wire) and SDI-12
Optional	Two optional plug-in slots for communication modules to increase the number of the serial I/O channels up to 6 pcs Fast serial expansion bus connecting e.g. digital I/O module
Speed	300 ... 38400 bps
Parameters	Configurable speed, start bits, data bits, stop bits, parity, XON/XOFF, and checksum
Voltage (external powering)	8 ... 30 VDC
Power consumption (typically with 5 sensors)	<10 mA/12V
Temperature	
operating	-50 ... +60 °C (-58 ... 140 °F)
extended operating	-60 ... +70 °C (-76 ... 158 °F)
storage	-60 ... +70 °C (-76 ... 158 °F)
Humidity	0 ... 100 %RH
ETHERNET COMMUNICATION	
Standard	IEEE 802.3
Two plug-in slots for ethernet modules	
Speed	10 Mbps (10 BASE-T) Can also be connected to 100 Mbps/1000 Mbps 100/1000 BASE-T networks with 10 Mbps
Parameters	Full/half duplex with auto-negotiation
TCP/IP	
Supported protocols	ARP, UDP/IP, TCP/IP, FTP, SMTP, PPP (with PAP or CHAP authentication), HTTP (get), Telnet, ICMP Echo, DHCP, ARP, NTP, DNS, serial port tunneling over TCP/IP

Accuracy

All data for ambient temperature range -50 ... +60 °C unless otherwise specified	
Temperature measurement (PT100 sensor, measurement range -50 ... +80 °C)	
Typical uncertainty over	
temperature range: -50 ... +60 °C	< ±0.04 °C
temperature range :-60 ... +70 °C	< ±0.08 °C
Max. error over	
temperature range: -40 ... +50 °C	< ±0.10 °C
Max. error at 0 °C	< ±0.04 °C
Voltage measurement uncertainty,	temperature range -50 ... +60 °C
±5.0 V range	< 0.06 % of reading ±100 µV
±2.5 V range	< 0.04 % of reading ±50 µV
±250 mV range	< 0.06 % of reading ±6 µV
±25 mV range	< 0.06 % of reading ±5 µV
Voltage measurement uncertainty,	temperature range -60 ... +70 °C
±5.0 V range	< 0.10 % of reading ±150 µV
±2.5 V range	< 0.08 % of reading ±80 µV
±250 mV range	< 0.10 % of reading ±10 µV
±25 mV range	< 0.10 % of reading ±10 µV
Frequency measurements	±0.003 % + resolution up to 20 kHz
Common mode range	+7 V/-3 V
Real-time clock (standard)	
accuracy	Better than 20 s/month
back-up time	minimum 5 yrs. with CR1220 Lithium cell

Regulatory compliances

Emission	CISPR 22, class B (EN55022)
ESD immunity	IEC6100-4-2
RF field immunity	IEC6100-4-3
EFT immunity	IEC6100-4-4
Surge (lightning pulses)	IEC6100-4-5
Conducted RF immunity	IEC6100-4-6

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For more information, visit www.vaisala.com or contact us at sales@vaisala.com

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