

ZFLOW-5849

Flow Comp



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Flow Computer
*For Liquid and Gas Measurements
for Custody Transfer*

F2

F3

ZICOM EQUIPMENT PTE LTD



Environment

Operating temperature : -10 to +60°C
 Operating humidity : 10 ...90% non condensing
 EMC : Complies with EU EMC regulation
 Storage temperature : -25 ... 70°C

Power Requirements

Dual power input with automatic switch over
 Power inputs : 230 (110) Vac +10 %, -15 %, 50-60 Hz, 24 Vdc (20 ... 35 V)
 Power consumption : 25W max.
 Transmitter power : 1 x 24 Vdc, 200 mA max.

Dimensions

Panel cut-out : 186 mm W x 91 mm H
 Case depth : 260 mm
 Front panel : 195 mm W x 110 mm H
 Weight : 4.3 kg

Compliances

EN 12405, OIML R117, OIML R140,
 EC- type certificate, Available with European CE Mark (MKEH).

Standards used in the calculations

Flow meters : ISO 5167 (1991, 1998, 2003), EN 12405, GOST 8.563
 Gas : AGA 8 (1991, 1998), AGA 3, AGA 10, ISO 6976, GERG 91, NX19, PTZ, GOST 30319, API Chp 21.1
 Oil : ASTM D1250, API 2540, API 11.2.1M, API 11.2.2M
 Water, steam : IAPWS-IF97

I/O moduls ***

ANI8 : 8 ch 4-20 mA
 PT4 : 4 ch Pt100 **
 ANI4PT2 : 4 ch 4-20 mA, 2 ch Pt100 **
 PDIO484 : 4 ch pulse input, 8 ch digital input, 4 ch digital output
 AODIO484 : 4 ch 4-20 mA output, 8 ch digital Input, 4 ch digital output
 HTI4x15 : 4 loops to scan, 15 HART PV/loop (multidrop) or 4 pcs HART transmitters (point to point), using HART protocol
 DE4 : 2-MF, 1-SF or 4-SF transmitters using DE protocol

Supported flow meters

Orifice, Venturi tube, Nozzle, V-Cone, Annubar, Vortex, Turbine, Positive displacement, Ultrasonic, Coriolis

Supported fluids

Hydrocarbons : natural gas, coke oven gas, blast furnace gas, crude oils, refined products, NGL, LPG
 Industrial gases : air, nitrogen, oxygen, hydrogen, argon, carbon-dioxide, carbon-monoxide, ethylene, ammonium, propane, synthesis gas for ammonium, hydrogen rich natural gas, general gases.
 Liquids other than water : ethanol, MTBE, ETBE, general liquid, Water, water steam, water-glycol mixture - energy flow (heat transfer) calculation



* software selectable
 ** optionally Pt500 or Pt1000 is also possible
 *** one ZFLOW-5849 can accommodate up to 5 I/O boards in any combination

Specifications :

MODEL: ZFLOW-5849

Analog inputs

Symmetrical inputs with galvanic isolation
Input range : 0/4-20 mA *
Accuracy : ± 0.02 %
Input voltage drop : 5.4V Max
Potential drop on inputs : 50V max
Equivalent input impedance : 270 ohm

4-wire RTD inputs

Sensor type : Pt100 ** Standard or individually calibrated
Accuracy : ± 0.03 deg C
Maximum loop resistance: 3Kohm
Excitation Current : 1mA

Pulse-frequency input (including NAMUR)

Signal counting without loss of pulses
Frequency range 0 ... 10 000 Hz
Input signal level 2 V ... 10 V
Signal form square, unipolar
Inaccuracy of freq. meas. 0.001 % max.

Digital inputs

Potential-free contacts, open collector (transistor) and 24 VDC inputs can be accepted and used as static inputs, or pulse inputs (frequency : 100 HZ, 50 % fill in ratio) without any further activity required from the user Potential-free inputs are supplied with power from the circuit board (12 VDC, 6.8 kohm)

Analog outputs

Output channels with individual galvanic isolation
Output range 0/4-20 mA *
Resolution 12 bits
Load 500 ohm max.

Digital outputs

Galvanically isolated open collector (transistor), overvoltage- and overcurrent-protected outputs
Load 100 mA, 40 Vdc max.

Field bus inputs

HART point to point or multidrop connections using HART protocol complete with 24 Vdc power supply (4 independent loops, 15pv per loop, accommodating 60 loops per Flow Computer).

Honeywell DE Single or Multivariable transmitters using the DE protocol, complete with 24 Vdc power supply

Digital communication

RS232/RS422/RS485*

Baud rate 1200 ... 38400 bit/sec*
Protocol Modbus (RTU, ASCII)
Length of cable RS232 15 m max. RS485/422 1200 m max.
10 / 100 Ethernet RJ45
Protocol Modbus TCP
USB USB for data saving to pendrive

Operator Panel

3.5" QVGA (320 x 240) backlit TFT color LCD display Foil protected membrane keyboard

Uncertainty

+/-0.05% at reference conditions(+20°C)
+/-0.005% at 10 °C ambient temperature effect

Maximum Permissible error :

+/- 0.03% OIML R117 Class 0.3
+/-0.2% EN 12405

Introduction

ZICOM Equipment Pte Ltd (ZEPL) is a wholly owned subsidiary of Zicom Group Limited, an Australian Stock Exchange listed company with its Corporate Office in Brisbane, Australia, and its Operations HQ in Singapore, where ZICOM Equipment Pte Ltd is based.

The main activities of the Zicom Group of companies consist of the manufacture of deck machinery, oil and gas metering and regulation systems for the marine offshore and oil and gas sector, concrete mixers and foundation equipment for the construction industry and precision engineering and automation for the electronic, semi-conductor and bio-medical sector. ZICOM Equipment Pte Ltd specializes in the oil and gas processing, metering and regulation systems for custody transfer application and Terminal Automation Systems. Zicom Group was first started in 1978 in Singapore. It first acquired a major interest in an Australian listed company in 1994 which then changed its name to Zicom Australia Ltd. ZAL bought over the concrete mixer manufacturing business from Rheem Australia Limited, a former subsidiary of BHP, Australia, the largest steel mill in Australia in 1996. In 2006, Zicom Group's Asia based companies with headquarters in Singapore merged with ZAL to form Zicom Group Ltd that continues to list with the Australian Stock Exchange.

Zicom Group's main operations are based in Singapore with established operations in Australia, Indonesia, Thailand, China, Bangladesh and India. The Group has 4 factories in Singapore, 3 in Australia, one in Indonesia, one in Thailand and one in China and has a total workforce of about 450 employees.

**For Gas and Liquid Measurement
for Custody Transfer
ZFLOW-5849 is the total solution
for flow measurement
as a stand alone flow computer.
Total 12 Streams are accomodated
in one flow computer.**



ZICOM through its continuous research and development in new technology, provides you with a single source for flow measurement optimization needs. ZFLOW-5849 is a combination of proven hardware and software technologies to determine the flow of natural gas or fluids for custody transfer.

State of the art measurement technology, synchronized digital signal processing and reliable data communication with user friendly operator interface makes ZFLOW-5849 the preferred choice for the operators.

Versatile communication protocols ensure easy integration with complex SCADA/HMI systems.

User friendly configuration menu of the flow computer or Z-CONFIG software for computer interface allows seamless setup for fiscal and custody transfer measurements based on Volume, Mass and Energy calculations using the latest applicable AGA, ISO and API Standards.

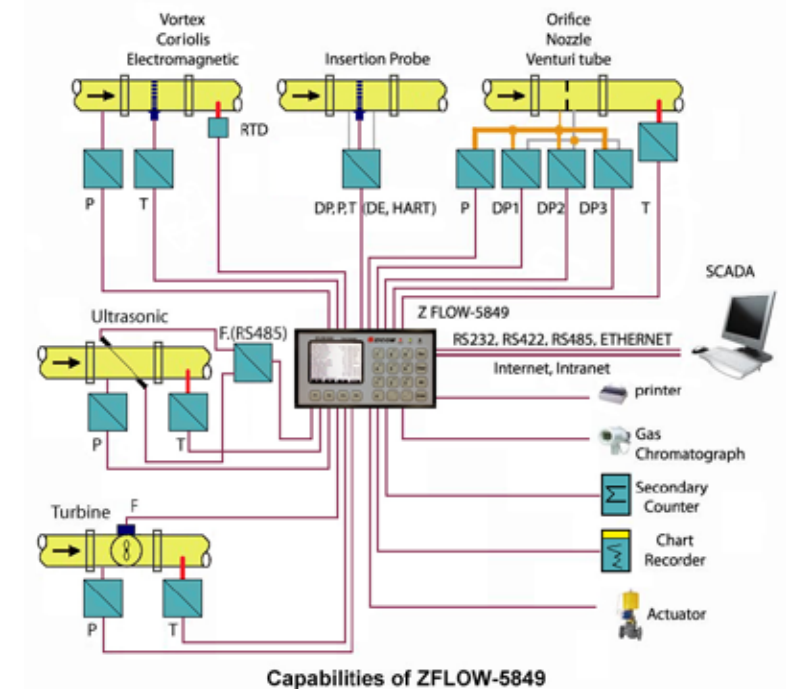
The storage capacity (500 MB) allows archiving metering data, alarms and event log for 400 Days . ZFLOW-5849 is the next generation flow computer (single- or multiple stream) that supports Turbine, Rotary, Ultra-sonic, Orifice, Density, Venturi & Coriolis flow meters in any combination.

ZFLOW-5849 is easily configurable using the keypad or laptop computer without the need for computer programing skills. Global network of aftersales and online support gives you peace of mind.

General features

- High capacity 32-bits microprocessor (ATM 9200 ARM MP)
- Modular design, up to 5 I/O boards
- Up to 8 physical metering streams
- Up to 4 virtual metering streams
- Flow meters: orifice plate, nozzle, Venturi tube, segmental orifice plate, Annubar, V-Cone meter, compact orifice, turbine meter, Vortex meter, ultrasonic meter, electromagnetic meter, mass flow meter, rotameter, meter with power characteristic
- Fluids : gas, liquid, water and steam
- Configuration: from keypad, Via Ethernet link
- Password protected parameters, audit trial log.
- Parameters and totals integrity protection: non volatile memory
- Archiving: hourly, shift, daily, multi-day and monthly totals and averages for 400 days
- Operator interface: alphanumeric and graphical display
- RS232, RS485, RS422 serial links, 10/100 Ethernet and USB interface
- Stream independent signal processing
- High reliability, no battery, no potentiometers
- Support: Z-CONFIG configuration and remote archive up loader software

Beside the 8 physical metering streams the flow computer is capable to provide 4 virtual metering streams. The virtual metering streams are to produce data from the flow rates of the physical metering streams. ZFLOW 5849 has high precision i/p, implementation of latest editions of flow metering standards is an added advantage. Utilization of digital communication can reduce overall uncertainty. For more complex energy systems ZICOM Equipment Pte Ltd can provide a PC based software package to implement energy balance with data processing, process visualization, trend and archiving as required.



ZICOM Equipment Pte Ltd provides support for the end users to integrate the flow computer into metering systems and into data acquisition and process visualization systems. ZICOM provides complete solution for flow metering task, including the design, manufacturing and implementation