



FLOW COMPUTER

MODEL EC351

Features

Compact flow computer combines signals from volumetric flowmeters with those from pressure, temperature and density sensors. Using appropriate flow equations, a wide range of important variables can be calculated and displayed.

1. Calculates and displays mass flow, corrected volume, heat, delta heat and other process variables.
2. Fast initial start-up possible using the "Quick Setup" program.
3. Function keys are programmable.
4. Outputs are galvanically isolated.
5. Has a multi-language (English, German, French) cleartext display.
6. Easy connection to and full compatibility with EF77 flowmeters.

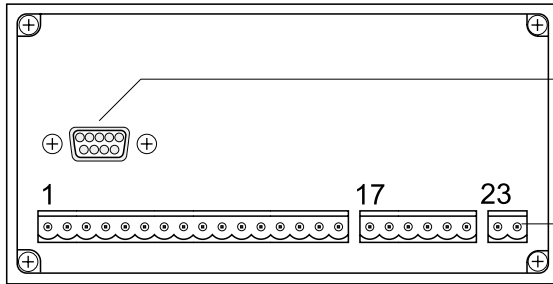


Specifications

| | |
|----------------------------------|---|
| Model | EC351 |
| Display | Two-line, backlit, liquid crystal, 20 characters per line |
| Line Voltage (Power Supply) | ● Standard: 85 – 260 V AC (50/60 Hz) ● Option: 20 – 55 V AC (50/60 Hz)/16 – 62 V DC |
| Power Consumption | AC: less than 10 VA; DC: less than 10 W |
| Integral Supply for Transmitters | 24 V DC, 100 mA regulated |
| Operating Temperature | 0 – 50°C |
| Protection Standard | Front Panel: IP 65 / NEMA 4X; Housing: IP 20 (EN 60529) |
| Housing Material | Flameproof plastic |

| Inputs | Flow | Analog Input | Range | 0/4 – 20 mA, 0 – 10 V, 0 – 5 V, 1 – 5 V | |
|-----------------------------|--------------------------------|-------------------------|--|---|--|
| | | | Resolution | 18 bit | |
| Inputs | Flow | Analog Input | Automatic Error Recognition | Signal over-range, current loop broken | |
| | | | Voltage Input Restriction | U_{max} : 50 V DC, R_{in} : > 25 k Ω | |
| | | | Current Input Restriction | U_{max} : 24 V DC, R_{in} : 100 Ω | |
| | | | Pulse Input | Trigger Level | Current Pulse: 12 mA; Voltage Pulse: 10 mV, 100 mV, 2.5 V |
| | | | | Input Restriction | U_{max} : 50 V DC, I_{max} : 25 mA, f_{max} : 20 kHz |
| | Pressure, Density, Temperature | Current Input | Range | 0/4 – 20 mA | |
| | | | Automatic Error Recognition | Signal over-range, current loop broken | |
| | | Pt100 (RTD) Input | Connection | 3-wire | |
| | | | Temperature Resolution | 0.01°C | |
| | | | Linearity | Corrected internally | |
| Automatic Error Recognition | RTD short, RTD open | | | | |
| Outputs | Relay Output (x2) | Function | Flow alarm, temperature alarm, pressure alarm | | |
| | | Pulse Output | f_{max} : 5 Hz | | |
| | | Contacts | SPDT 240 V, 1 A | | |
| | Current Output (x2) | Range | 0/4 – 20 mA | | |
| | | Resolution | 16 bit | | |
| | | Linearity | 0.05% o.f.s. (at 20°C) | | |
| | | Maximum Load Resistance | 1 k Ω | | |
| | Pulse Output (selectable) | Open Collector | Voltage < 30 V DC, current < 25 mA, U_{CE} < 0.4 V | | |
| | | Voltage Pulses | Voltage 24 V, current < 15 mA, internal resistance: 100 Ω , f_{max} : 50 Hz | | |
| | Printer Output | Interface | Serial interface RS232, 9-pin DSUB connector | | |

Connecting Terminals



(Rear view of panel mount housing)

Serial interface RS 232
(Common ground connection
with Terminal 4)

3 separate terminal strip
connectors can be easily
removed to simplify wiring

| Terminal Designation | Inputs/Outputs |
|---|--------------------------|
| 1 +24 V DC supply (internally connected with terminal 8) | Flow input |
| 2 Pulse or voltage input (active+, passive-)* or high-range current input for split range DP transmitters | |
| 3 Current input (active+, passive-)* or low-range current input for split range DP transmitters | |
| 4 (-) Ground connection, 24 V DC supply | Active inputs* |
| 5 (+) Pt100 | Pt100 or Current input 1 |
| 6 (+) Pt100 | |
| 7 Pt100 (-) or current input (active+, passive-) | Current inputs |
| 8 +24 V DC power (internally connected with terminal 1) | |
| 9 (+) Pt100 | |
| 10 (+) Pt100 | |
| 11 Pt100 (-) or current input (active+, passive-)* | Pt100 or Current input 2 |

| Terminal Designation | Inputs/Outputs |
|---|-----------------|
| 12 (+) active or passive | Pulse output |
| 13 (-) active or passive | |
| 14 (+) Current output 1 | Current outputs |
| 15 (+) Current output 2 | |
| 16 (-) Ground connection | |
| 17 Function: Normally Open contact (NO) | Relay output 1 |
| 18 Relay 1 wiper | |
| 19 Function: Normally Closed contact (NC) | |
| 20 Function: Normally Closed contact (NC) | Relay output 2 |
| 21 Relay 2 wiper | |
| 22 Function: Normally Open contact (NO) | |
| 23 L1 for AC L+ for DC | Power supply |
| 24 N for AC L- for DC | |

Galvanic Isolation

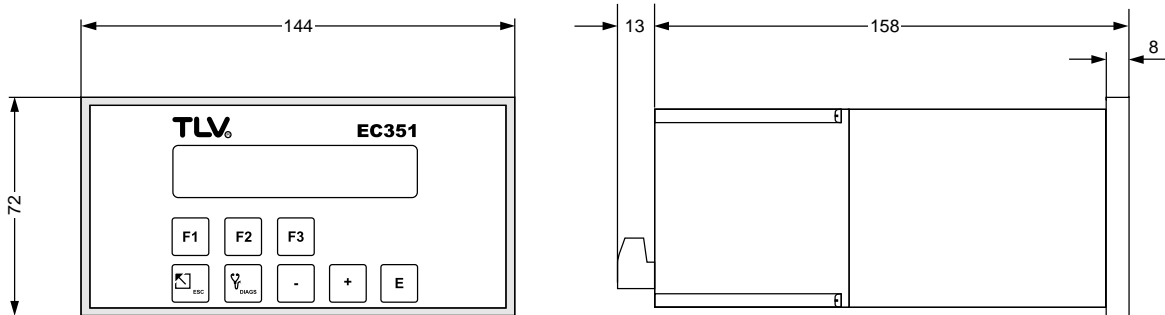
* active: Transmitter with own power supply (4-wire)
passive: Transmitter supplied by the flow computer (2-wire)



The three inputs share a common ground connection. The two current outputs also share a separate ground connection. If complete separation is required between the two current outputs, then external galvanic isolators must be used.

Dimensions

● EC351 Housing for panel mounting



(Units: mm)

Weight: approx. 0.6 kg

ISO 9001/ISO 14001

TLV® CO., LTD.
Kakogawa, Japan
is approved by LRQA Ltd. to ISO 9001/14001

