SIEMENS

Data sheet 7ME3448-6AA00-0BB1

The technology module SITRANS FST070 is a ultrasonic flow transmitter for the SIMATIC ET 200SP. The TM FCT070 flow transmitter can be operated directly in the SIMATIC PCS 7 or in TIA Portal with the FST070 faceplates. TM FST070 offers real-time data processing and the display of all measuring and status data of the ultrasonic flowmeter. The TM FST070 can work with FSS100, FSS200 and FSS300. The flow meters need the FS DSL interface to connect them to the TM FST070.

General information	
Product type designation	TM FST070
Firmware version	V1.0
● FW update possible	Yes
usable BaseUnits	BU type B1
Color code for module-specific color-coded label	CC40
Product function	
● I&M data	Yes; I&M 0
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V17
● STEP 7 configurable/integrated from version	V5.6 SP4 and higher
● PROFINET from GSD version/GSD revision	GSDML V2.35
Supply voltage	
Rated value (DC)	24 V
Load voltage L+	
● Rated value (DC)	24 V
● permissible range, lower limit (DC)	19.2 V
● permissible range, upper limit (DC)	28.8 V
● Short-circuit protection	Yes
● Reverse polarity protection	Yes; against destruction
Input current	
Current consumption, max.	500 mA
Power	
Active power input	1.2 W
Address area	
Address space per module	
● Inputs	132 byte
● Outputs	11 byte
Hardware configuration	
Automatic encoding	Yes
● Mechanical coding element	Yes
● Type of mechanical coding element	type D
Digital inputs	
Number of digital inputs	2
Digital inputs, parameterizable	Yes
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Digital input functions, parameterizable	
● product function, parameterizable	forced output, freeze output, zero adjustment, counter 1 reset, counter 2 reset, counter 3 reset

● Freely usable digital input	Yes
Input voltage	
● Type of input voltage	DC
● Rated value (DC)	24 V
● for signal "0"	-30 to +5 V
● for signal "1"	+11 to +30V
● permissible voltage at input, min.	-30 V
● permissible voltage at input, max.	30 V
Input current	
● for signal "1", typ.	2.5 mA
Cable length	
● shielded, max.	50 m; depending on load and cable quality
● unshielded, max.	25 m; depending on load and cable quality
Digital outputs	
Number of digital outputs	2
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes; electronic/thermal
Digital output functions, parameterizable	
● Freely usable digital output	Yes
Switching capacity of the outputs	
● with resistive load, max.	300 mA
● on lamp load, max.	8 W
Load resistance range	
● lower limit	80 Ω
● upper limit	10 kΩ
Output voltage	
● Type of output voltage	DC
● for signal "0", max.	1 V
● for signal "1", min.	23.2 V; L+ (-0.8 V)
Output current	
● for signal "1" rated value	300 mA
Switching frequency	
● switching frequency, min.	0 Hz
● switching frequency, max.	12 Hz
Pulse output (passive)	
● Output voltage, max.	23.2 V
● ampacity of the external power supply	300 mA
Frequency output	
● number of frequency outputs	1
● percentage pulse/pause ratio	50 %
Cable length	
● shielded, max.	50 m; depending on load and cable quality
● unshielded, max.	25 m; depending on load and cable quality
Errors/accuracies	
relative suppression of the residual flow / min.	0 %
relative suppression of the residual flow / max.	9.9 %
Interfaces	
Design of the interface for communication	Digital Sensor Link (DSL), ET 200SP backplane bus
Protocols	
Bus protocol/transmission protocol	PROFINET
Interrupts/diagnostics/status information	
Substitute values connectable	Yes; Parameterizable
Alarms	
● Diagnostic alarm	Yes
Diagnostics indication LED	
● Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
● for module diagnostics	Yes; green/red DIAG LED

Integrated Functions	
Measuring functions	
● Measured variable	volume flow, standard flow, density, temperature
Measuring range	
— -1 mV/V to +1 mV/V	corresponds to a resolution of ±500 000 parts
Potential separation	
Potential separation	to all inputs, to all supplies, to all communications interfaces
Design of electrical isolation	galvanic isolation
Potential separation channels	
● between the channels	No
● between the channels and backplane bus	Yes
Permissible potential difference	
between different circuits	75 V DC/60 V AC (base isolation)
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-25 °C
● horizontal installation, max.	60 °C; Observe derating
● vertical installation, min.	-25 °C
● vertical installation, max.	50 °C; Observe derating
Ambient temperature during storage/transportation	
● Storage, min.	-40 °C
● Storage, max.	70 °C
Altitude during operation relating to sea level	
● Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
● Operation, min.	5 %
● Operation, max.	95 %
Mechanics/material	
Material of housing	
● of the transmitter	plastic
Decentralized operation	
to SIMATIC S7-300	Yes
to SIMATIC S7-400	Yes
to SIMATIC S7-1200	Yes
to SIMATIC S7-1500	Yes
to standard PROFINET controller	Yes
Dimensions	
Width	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	32 g

Classifications

	Version	Classification
eClass	14	27-20-04-16
eClass	12	27-20-04-16
eClass	9.1	27-20-04-16
eClass	9	27-20-04-16
eClass	8	27-20-04-16
eClass	7.1	27-20-04-16
eClass	6	27-20-04-16

Approvals / Certificates

General Product Approval	For use in hazard-ous locations

Manufacturer Declaration

FM

For use in hazardous locations

Miscellaneous

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