

# TIV

## TECHNICAL GUIDANCE

### TRX-700

Thermal Flowmeter Converter  
Digital Output Compatible

#### ● Outline

TRX-700 is an intelligent type converter for thermal flowmeters. High-precision and high-performance capacities have been achieved by the new design of a signal processing circuit mounting double CPU's. All the operation factors are handled by the operating keys arranged on the front panel that enables to make settings and alterations in a user-friendly way. Functions necessary for process monitoring and controlling such as flow rate, totalization and alarm output are all installed as the standard specification. In addition, data processing with a host computer has made available through serial communication with RS-485 interface.

#### ● Features

- Digital output function  
Output of serial data through RS-485 interface such as flow rate, totalization and self-diagnosis enables to make data processing by a host computer.
- High precision  
The flow rate of various types of gas can be measured with a high accuracy within  $\pm 1.0\%$  F.S. by the measurement principle of our originality. The measurement principle thus established on theoretical analysis enables to apply it to almost all general types of gas.
- Improved compatibility  
The converter absorbs the characteristic of the detector of the thermal flowmeter that improves compatibility of the detector and the converter.
- Wide range ability  
The measurement accuracy is maintained sufficient for practical purpose even in a flow rate range as low as 0.5m/s. The drawback of traditional orifice type and vortex type gas flowmeters has thus been broken through.
- High durability  
The design giving considerations to minimize power loss as well as heat generation inside the converter ensures long life of the converter.
- User-friendliness  
Setting of all operating conditions such as full scale flow rate, flow rate unit, pulse rate, alarm output, analog output and serial output can easily be changed by operating keys on the front panel and serial communication function.



- Applicable to any type of gas  
With the measurement principle by the established theoretical analysis system, the converter is applicable to measurement of any type of gas. Since the setting for different gas substance characteristics can be set by a host computer, the case of gas changes can be thoroughly coped with.
- Minimal influence under temperature change  
The influence of gas temperature change is almost negligible. When temperature changes widely, mass flow rate measurement not influenced by temperature fluctuation can be applied by inputting a temperature sensor signal.
- Light weight  
Compared with the last model (TR-7000), TRX-700 weighs less by about 33%.

#### ● Application

- Semi-conductor manufacturing gas line
- Medical oxygen supply line system
- Air-conditioning facilities
- General industrial process and utility line
- High temperature dry air line
- Combustion gas line
- Low pressure gas line
- Waste disposal incinerating facility line
- Power plant line
- Automobile relevant measurement line
- Flow rate measurement line for other types of gas

## • Specification

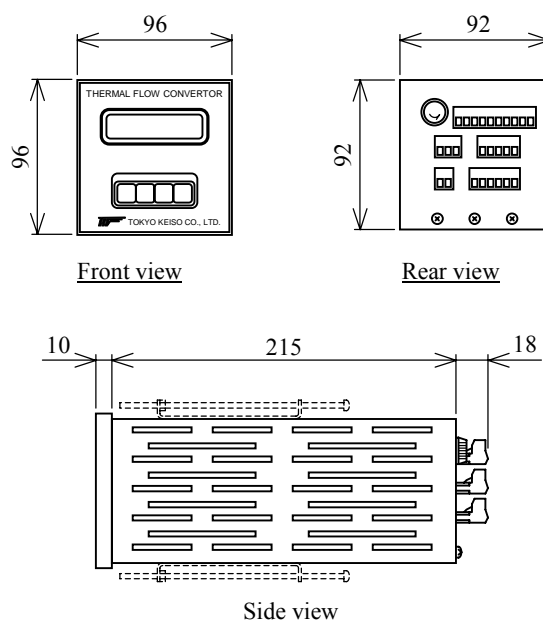
Connectable detector	TH-1100(SP, HSP) / 1100HQ / 1200 / 1400 / 1500 / 1500HQ / 1600 / 1700 / 1800
Installation	Mounted on panel (DIN96×96)
Construction	Indoor specification (IP20 equivalent)
Accuracy	±1%F.S. ± 1digit (Flow rate) ±1.05%F.S. ± 1digit (Totalization)
Analog output	4 ~ 20mADC / Allowable load resistance 500Ω
Pulse output	Open collector output / 35VDC/50mA (max.)
Contact output of alarm	SPDT relay contact (High alarm / Low alarm) 125VAC/0.4A (20VDC/2A)
Digital output (RS-485)	1200 / 2400 / 4800 / 9600bps (Selectable) ID address: 00 ~ 99 Protocol: 8N1 Output: Flow rate, totalization, bar graph, temp., pressure, heating current, firmware version, serial No., error message, etc.
Display	Dot matrix LCD, 16 characters × 2 lines With backlight
Indication	Upper section Select one item from flow rate, totalization, temp., Pressure, heating voltage, internal temp. and SPS ripple, or error message.
	Lower section Select one item from bar graph, flow rate, Totalization, temp., pressure and heating current, Or error message.
Maximum number of display digits	5 digits (0.000 ~ 99999) (Flow rate) 7 digits (0.00 ~ 9999999) (Totalization)
Temp. correction function	3-wire type resistance temp. sensor (Pt100Ω) is required separately.
Pressure correction function	Pressure gauge with 4 ~ 20mADC analog output is required separately. (Used mainly for indication of actual flow rate.)
Response time	3 seconds (63% step response)
Dimensions	96H × 96W × 243D (mm)
Weight	About 1.95kg
Cable length	100m (max.)
Power supply	90 ~ 264VAC 50/60Hz
Power consumption	60W (max.)
Elect. connection	Pin terminal connector
Ambient temp.	0 ~ 50°C
Ambient humidity	10 ~ 90% RH (No dew condensation)

## • Model code

Model code			Contents
T	R	X - 7	
Temperature and pressure correction	0		No correction
	1		Temperature correction
	4		Temp. + Press. correction
Cable length	1		5m
	2		10m
	3		15m
	4		20m
	5		25m
	6		30m
	7		35m
	8		40m
	9		45m
	A		50m
	F		50m longer up to max.100m *

\* Please specify required cable length.

## • Dimensions



\*Specification subject to change without notice

# TOKYO KEISO CO., LTD.

Head Office : Shiba Toho Building, 1-7-24 Shibakoen, Minato-ku, Tokyo 105-8558

Tel : 03-03431-1625 (KEY) ; Fax : 03-3433-4922

e-mail : overseas.sales@tokyokeiso.co.jp ; URL : <http://www.tokyokeiso.co.jp>

