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PRODUCT SPECIFICATIONS

Thermo Scientific AutoXP

Single run gas and liquid flow computer

The Thermo Scientific™ AutoXP instrument is built on the field-proven AutoCONFIG platform. Designed for harsher environments across all oil and gas sectors.

Features

- Custody transfer compliant
- Bluetooth connectivity
- Through glass keypad interface
- Designed to meet Class I Div 1 and Div 2 requirements

The Thermo Scientific AutoXP has been designed to provide ultimate flexibility by providing a a complete suite of measurement calculations along with control functions that enable customers to gain control where they need it most. In addition this unit can be configured for both gas and liquid applications utilizing todays most common primary devices all while meeting Class I Div 1 and Div 2 requirements.

Inputs/Outputs (Advanced Unit)

(1) Analog Output

(2) Analog Inputs

(2) Pulse/Frequency Inputs

(2) Digital Outputs

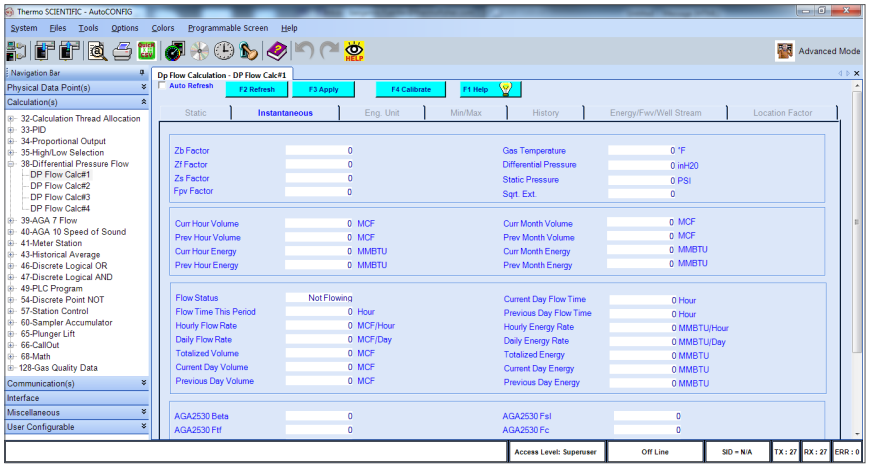
(2) Digital Inputs

(1) RTD 3 or 4 Wire

Thermo Scientific™ AutoXP

AutoCONFIG Configuration Software

Thermo Scientific flow computers are built on an innovative field proven platform incorporating the latest measurement standards and calculations for hydrocarbon measurement. AutoCONFIG interface allows for simplified configuration eliminating need for indepth programming. Control functions include Station Control, PID, Alarming, Event based logging and many more.



Thermo Scientific™ AutoCONFIG built-in software

ThermoFisher SCIENTIFIC

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Thermo Scientific™ AutoXP

General specifications

Processor	32-bit
Program memory	4 MB of flash memory
Data storage memory	SRAM, 2 MB, battery-backed
CPU board communication port	1 RS232, 1 RS232/1 RS485, 1 10Base-T Ethernet port
Input power	10 VDC to 30 VDC
Historical data storage	User configurable, defaulting to 65 days of daily, 35 days of hourly per meter run
Audit trails	User configurable, defaulting to 200 audit events
Alarm log storage	User configurable, defaulting to 200 alarm events
Keypad	4 IR through glass key input
Display	128x65 backlit LCD display; User programmable scroll list and menus

Environmental specifications

Operating temperature	-40ºC to +85ºC (-40ºF to +185ºF)
Operating humidity	0-95% RH, non-condensing
Enclosure rating	NEMA 4X/IP67
Certifications	CSA/C-US Class I, Div 1, Groups B, C, D; ambient temperature range of -40°C to +85°C (-40°F to +185°F), temperature code T6 (-40°C to 75°C) T5 (-40°C to 85°C) Measurement Canada, Approval no. AG-0650 EN 61326-1: 2013 (Industrial Criteria); FCC 47 CFR Part 15, Subpart B; ICES 003: 2016

Natural gas calculations

Supercompressibility	(Fpv) AGA 8 Gross-1992; AGA 8 Detail-1992; AGA 8 Short-1988; NX-19; NX-19 Analysis; GERG
Differential meters	(DP, Orifice) AGA 3/ANSI/API 2530-1992 Method 2; AGA 3/ANSI/API 2530-1985; ISO 5167; Cone meters; Annubar; GOST
Linear meters	(Turbine) AGA 7; AGA 9; AGA 11
Energy	AGA 5; GPA 2172; ISO 6976
Diagnostic	AGA 10 SoS
Additional factors/equations	Fwv (manual, partial or full); Fws; Nist 14
Turbine meter linearization	10 Point Frequency/K-factor Table

Liquid calculations

API tables	Table A (generalized crude oils); Table B (generalized products); Table C (thermal expansion properties); Old Table (NGL,
LPG SG	range 0.425 to 0.650); Table 23/24 E (NGL, LPG); VCF (CH 11.1 2004); Propylene (CH 11.3.3.2); Ethylene (API
2565/CH 11.3.2.1);	
	Ethylene (NBS 1045)
Volume correction factor (VCF)	Consistent with API 2540/ASTM D1250-80/IP 200; 5/6 A/B; 23/24 A/B; 53/54 A/B; 6/24/54 C; CH 11.1 2004;
	Note: natural gas liquids (NGL) and liquefied petroleum gases (LPG): OLD 23/24, OLD 53/54; Table E is new
standard to	replace OLD 23/24.
Correction for effect of pressure on liquid	Ch 11.2.1/Ch 11.2.2; Ch 11.2.1M/Ch 11.2.2M (compressibility factors for hydrocarbons), equilibrium pressure
Propylene density	API Ch 11.3.3.2
Ethylene density	API 2565 (Ch 11.3.2.1); Ethylene NBS 1045
Live density input	Thermo Scientific Sarasota liquid density meter, Solartron, UGC, 4-20 mA

Differential Pressure	400”/1500 psia	400”/4500 psig	2000”/4500 psig
Upper Range Limit (URL)	400” H_2O	400” H_2O	2000” H_2O
Turndown Ratio	400:1	400:1	400:1
Min/Max Span	1.0/400 H_2O	1.0/400 H_2O	5/2000” H_2O
Accuracy[1]	0.0525%	0.04%	0.0375% Reading
Stability (%URL/Year)	0.0625	0.0625	0.0625
Response Time	100ms	90ms	90ms

Static Pressure	400”/1500 psia	400”/4500 psig	2000”/4500 psig
Upper Range Limit (URL)	1500 psia	4500 psig	4500 psig
Turndown Ratio	15:1	75:1	75:1
Min/Max Span	100/1500 psia	60/4500 psig	60/4500 psig
Accuracy[1]	0.0550%	0.0375%	0.0375% Span
Stability (%URL/Year)	0.008	0.016	0.016
Response Time	100ms	90ms	90ms

[1]Terminal based accuracy-Includes the combined effects for linearity, hysteresis and repeatability

USA
27 Forge Parkway
Franklin, MA 02038
Ph: (713) 272-0404
Fax: (713) 272-2273
orders.process.us@thermofisher.com

India
Industrial Unit No.101+130,
Plot No.C-56/1, TTC Industrial
area, MIDC-Turbhe,
New Mumbai 400 703, India
Ph: +91 82 9199 0337
INinfo@thermofisher.com

China
8/F Bldg C of Global Trade Ctr,
No.36, North 3rd Ring Road,
Dong Cheng District
Beijing, China 100013
Ph: +86 10 84193588
info.eid.china@thermofisher.com

Europe
Ion Path, Road Three,
Winsford, Cheshire CW73GA UK
Ph: +44 1606 548700
Fax: +44 1606 548711
sales.epm.uk@thermofisher.com

Find out more at **thermofisher.com/autoxp**