



SERVOPRO MonoExact TCD

The SERVOPRO MonoExact TCD offers the next generation TruRef Thermal Conductivity technology, providing the best in class performance with low maintenance burden.

FEATURES

Unique, patented TruRef technology *

Servomex TruRef Thermal Conductivity technology does not require a reference cell or a reference gas, and as it is not affected by changes in the thermal mass of the sample gas, it is insensitive to changes in sample density, pressure and flow.

Class leading performance

A unique design based on a thick film substrate and precision manufactured in a clean room environment, the TruRef Thermal Conductivity transducer offers a class leading performance for repeatability and drift.

Low cost of ownership

The high stability and reliability of Servomex sensor technology supports reduced calibration frequency with a lower maintenance cost, and a common user interface with the SERVOPRO MultiExact and SERVOFLEX Portables platform reduces the training burden.

Two MonoExact analysers fit into a single 19" rack slot

Two MonoExact analysers will sit side by side in a panel to fit into a single 19" rack slot.

Comprehensive digital communications

The SERVOPRO MonoExact offers a broad range of digital communications - continuous ASCII output (RS232), Modbus (RS485), Modbus TCP (Ethernet), and PROFIBUS (RS485)

APPLICATIONS

- Air separation
- Process control
- Product validation
- Iron and steel
- Hydrogen purity
- Helium production
- Gas blending

* US7753582, EP1837645, CN101042359

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MonoExact TCD

SPECIFICATION

TECHNOLOGY	Thermal Conductivity (TCD)										
Gas and Ranges available:	0-1%	0-2%	0-5%	0-10%	0-20%	0-30%	0-50%	0-100%	50-100%	80-100%	90-100%
05512 Standard Sample Gas											
Ar in N ₂ or O ₂ or Air				✓	✓		✓	✓		✓	✓
N ₂ in Ar				✓	✓		✓	✓			
He in N ₂		✓	✓	✓	✓	✓	✓	✓		✓	✓
He in O ₂		✓	✓	✓	✓	✓	✓	✓		✓	✓
05522 Flammable Sample Gas											
H ₂ in Ar					✓						
H ₂ in N ₂	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
H ₂ in CO	✓										
PERFORMANCE											
Intrinsic error (accuracy):	<1% of span										
Repeatability:	<0.5% of span										
Response time (T ₉₀) ▼ at sample flow rate:	<15 seconds - 150ml/min										
Drift:	<1% span per month										
Flow range:	100-200ml/min										
OUTPUTS/INPUTS											
Analogue output:	Isolated 4-20mA/0-20mA										
Analogue output range:	Freely selectable over measurement range										
Serial output:	Continuous ASCII output on RS232										
Fault alarm + range change:	Volt-free single pole relays (30V at 1A)										
OPTIONS											
Analogue output:	Isolated 0-10V per channel										
Digital communications:	Modbus ASCII or Modbus RTU on RS485, PROFIBUS on RS485, Ethernet (Modbus TCP)										
Alarm/status relay card:	4 volt-free single pole relays (30V at 1A) for high alarm, low alarm, service in progress, maintenance required. NAMUR compliant										
Calibration relay card:	3 volt-free single pole relays (30V at 1A) for sample stream, low cal gas, high cal gas 3 volt-free switched inputs, closure to activate Autoval/autocal configures: initiate, stop, initiate "service in progress" Remote cal configures: initiate low cal, initiate high cal, initiate "service in progress"										
SAMPLE GAS											
Temperature:	5°C to 45°C (41°F to 113°F)										
Dewpoint:	5°C (9°F) below minimum ambient temperature										
Condition:	Oil free, non-corrosive, non-condensing, non-flammable										
Particulates:	Filtered to 2µm										
Vent:	Vent to atmosphere										
Sample pressure:	35±21kPa (5±3psig)										

▼ for flow driven sample systems or pressure driven sample systems at 8psig input

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DESCRIPTION	<u>GAS MODULE CONFIGURATION</u>	<u>Options</u>
Gas module:	Thermal Conductivity measurements	<input type="checkbox"/> Ar <input type="checkbox"/> N ₂ <input type="checkbox"/> He <input type="checkbox"/> H ₂
Sample system:	The flow required is 100-200ml/min The pressure must be limited to 35±21kPa (5±3psig) in a pressure driven analyser H ₂ measurement fitted with stainless steel pipework, available only as flow driven	<input type="checkbox"/> Flow driven <input type="checkbox"/> Pressure driven
Fascia options:	One fascia mounting option can be chosen The sample flowmeter displays up to 500ml/min * not available with H ₂ measurement	<input type="checkbox"/> Not required <input type="checkbox"/> Sample flowmeter * <input type="checkbox"/> Filter *
<u>GENERAL CONFIGURATION</u>		
Power lead:	There are 3 options for the power lead	<input type="checkbox"/> UK <input type="checkbox"/> Europe <input type="checkbox"/> US
Analogue outputs:	Each gas module is supplied with an advanced mA output with auto-ranging as standard There is an option for a voltage output in place of the mA output	<input type="checkbox"/> mA output <input type="checkbox"/> Voltage analogue output
Digital outputs:	Digital communications allow for the analyser to be monitored and configured remotely. It allows for a greater level of remote diagnostics to be carried out above that supplied by the standard relay contacts	<input type="checkbox"/> Modbus, RS485 <input type="checkbox"/> Ethernet, Modbus TCP <input type="checkbox"/> PROFIBUS DP, RS485
Relay option cards:	Autovalidation/autocalibration: allows the instrument to control calibration gases automatically to validate or calibrate the measurement. This option can also be used for remote calibration of the analyser Alarms/status relays: A NAMUR compliant card provides Alarms, Maintenance and Service in Progress	<input type="checkbox"/> Autoval/cal <input type="checkbox"/> Alarms/status relays
Mounting:	Available with adjustable feet for bench mounting The analyser is mounted in the customer's panel, or is fitted as the second unit in a Servomex dual front panel The analyser is mounted in a Servomex front panel and fitted to a 19" rack, the front panel may provide for one or two analysers.	<input type="checkbox"/> Bench <input type="checkbox"/> Panel mounting <input type="checkbox"/> Rack mounting
User manual:		<input type="checkbox"/> English <input type="checkbox"/> French <input type="checkbox"/> German

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SAMPLE WETTED MATERIALS

Analyser fitted with	Ar/N ₂ /He	H ₂
Stainless steel 316/310	✓	✓
Viton	✓	✓
Borosilicate glass	✓	✓
Platinum	✓	✓
Platinum iridium alloy	✓	✓
Alumina	✓	✓
Nickel iron	✓	✓
Sealing glass	✓	✓
Pressure driven option		
Polysulphone	✓	
Flowmeter option		
Borosilicate glass	✓	
Duralumin	✓	
Internal filter option		
Polycarbonate	✓	
Glass fibre	✓	

ELECTRICAL SAFETY

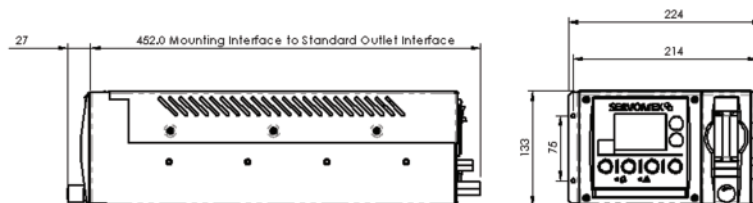
Electrical safety to IEC 61010-1
The product is rated for "Overvoltage Category II"
The product is rated for "Pollution Degree 2"

EC DIRECTIVE COMPLIANCE

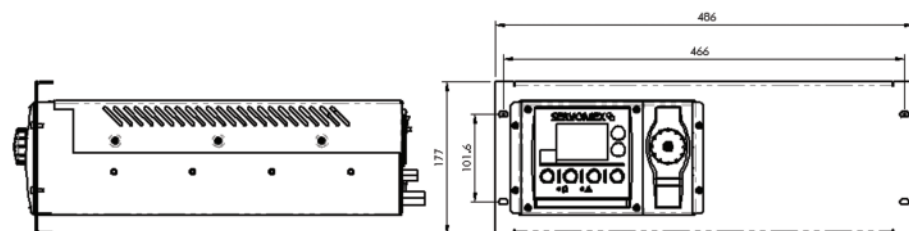
The SERVOPRO MonoExact is in compliance with:
Low Voltage Directive
EMC Directive
And all other applicable Directives

DIMENSIONS

Panel Mount



Rack Mount



All dimensions shown in millimetres

SERVICE & SUPPORT

For new installations and replacement of older Servomex and competitor products, we will work with you to develop a bespoke service and support package, ensuring full measurement availability and plant operation within your timescales and budget.

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