



## Lysis

LSA Series

Intelligent Flow Electronics

for Linearization and  
Temperature Compensation

Datasheet



## Lysis Measuring principle

The Lysis LSA Series Plug-and-Measure Linearizer/Flow Computer corrects the frequency output of Turbine flowmeters for the effects of temperature and viscosity. It also linearizes and scales the Flow and Temperature outputs in a variety of formats including CAN.

## Temperature and Viscosity Correction

The **Standard** Temperature Compensation mode corrects in real time for the effects of temperature and viscosity using UVC methods to perform accurate flow measurement under all conditions. With the proprietary **UVCpro** Compensation method activated, unprecedented levels of accuracy are possible over the full extended flowmeter range (up to 130:1).

## Programming

The user-friendly FlowHow+ programming software allows easy programming of flow calibration and fluid properties data as well as linearization and scaling of Flow and Temperature outputs.

## Technical data

- Power Supply: 6-36 VDC
- Power Consumption: <0,5W, about 35mA @ 12V
- Operating temperature: -40 to +125°C
- Storage temperature: -55 to +150°C
- Humidity, Relative: 0 to 85 % non-condensing
- Update Rate: 1 ms

## Inputs

Upon connection with ANY TrigasDM Smart-Pickoff equipped flowmeter, Lysis gains access to the following information and signals from the Smart-Pickoff via a 5-pin shielded, high temperature resistant cable:

- Flowmeter Frequency
- Fluid Temperature
- Flow Meter identification (Model and Serial number)
- Calibration and Fluid Properties data

## No customer lockout



The Lysis electronics are supplied with open software architecture which allows user defined and controlled password protection. All scaling and programming functions are open and are accessible by the user.

## Outputs

### Frequency, Flow

Linearized, Scaled TTL frequency signal

- Scalable end value up to 10 kHz
- Accuracy = 25 ns

### Analog, Flow and Temperature

0-10V linearized and scalable

- No zero-point offset
- Accuracy: 0,0015 % of full scale
- Resolution: 16-bit (0.15 mV)

## Data Storage

All data are stored in the Smart-Pickoff which is part of the turbine flowmeter.

Up to five selectable Flowmeter Calibration Curves and up to five Fluid Properties Tables can be stored in memory in the Smart-Pickoff, making it a versatile flow measuring instrument.

### Flowmeters:

up to 64 points per calibration in the form

- K factor [pul/l] vs Frequency/viscosity [Hz/mm<sup>2</sup>/s]

**Fluids:** Up to 20 points per table for:

- Density vs Temperature
- Viscosity vs Temperature

## Data Interpolation

Sophisticated proprietary methods are used for interpolating between calibration points.

- Cubic Spline is used for Flow, Temperature and Density
- A specialized linearization method is used for Viscosity.

## Housings

### Round Housing, IP68

Weight: 145 g

Dimensions: L x Ø = 95 x 30 mm

Including connectors

### Square Housing, IP68

Weight: 245 g, depending on configuration

Dimensions: L x W x H = 122 x 55 x 34 mm  
depending on configuration



### List of available models:

LSA-ST-05-V1-05-05-00 Round housing, TTL + Analog  
 LSA-ST-05-V1-07-02-00 Rectangular housing, TTL + Analog  
 LSA-ST-07-V1-07-07-00 Rectangular housing, Analog only  
 LSA-ST-08-V1-07-08-00 Rectangular housing, CAN

Designation: LSA Series Lysis Linearization Electronics / Flow Computer

Input signal: ST - SMART-Pickoff with temperature sensor, 5 pin

Output Signal Options: 05 - 0-10V flow rate + 0-10V temperature + raw frequency + TTL pulses  
 07 - 0-10 V flow rate + 0-10 V temperature  
 08 – CAN

Supply voltage: V1 - 6-36 VDC

Housing options: 05 - Lysis Round housing IP68  
 07 - Lysis Square housing IP68

Connector options: 02 - ODU F G81F1C-P05QJ00/2x ODU B G81B0C-P08RJ00  
 (input/output) 05 - ODU B G81B0C-P05QJ00 / ODU G81B0C-P08RJ00  
 07 - ODU F G11F1C-P05LJG0 / 2x ODU G81F1C-P05QJ00  
 08 - ODU B G81B0C-P05QJ00 / 2x Lemo HGA.0B.309

Wiring: 00 - standard

### FlowHow

A specialist with more than 35 years of experience in Flow Measurement and Calibration technology, TrigasDM supplies high-quality flow measuring instruments, electronics and calibrators for liquids and gases.



### Made in Germany

Our products are entirely developed and manufactured in Neufahrn, 20 km north of Munich, ensuring world-class technical knowhow for our customers.

### Contact

We are proud of our high-quality products and friendly customer Service. You can benefit from our long-standing experience and our comprehensive technical support.

TrigasDM GmbH  
 Erdinger Str. 2b, 85375 Neufahrn, Germany

Tel.: +49 8165 9999 300  
[www.trigasdm.com](http://www.trigasdm.com)

