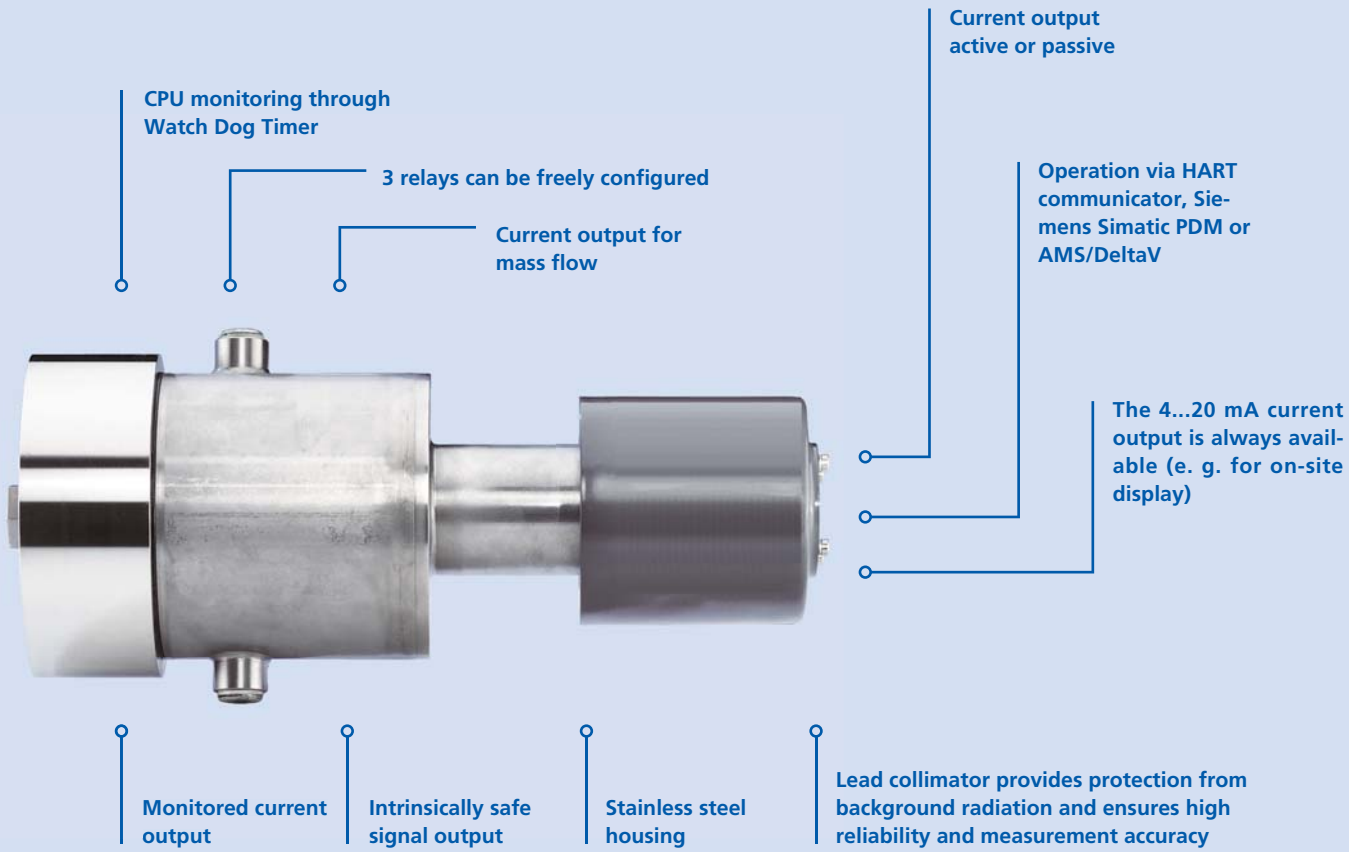
DASTEC
30 años de soluciones para la industria

Uni-Probe LB 491

A universal field device for various applications

A versatile compact device

- Versatile detector for various applications
- Compact field device with integrated evaluation unit
- Communication via HART, Foundation Fieldbus or Profibus PA
- Communication can be switched from Bus to HART at any time
- Inexpensive and solid system for standard applications



Robust compact device for high demands

The density measurement system Uni-Probe LB 491 is a proven compact device provided with a robust stainless steel housing. It is inexpensive, reliable, precise and requires very little source activity. It features all common communication capabilities such as HART, Profibus PA and Foundation Fieldbus.

Monitored current output

A monitored current output provides you with a high level of safety. It ensures that the correct measurement values are displayed. The device constantly compares the actually flowing current with the target value. In the event of deviations, a failure current is generated. A Watch Dog Timer monitors the functioning of the CPU simultaneously.

Mass flow

In combination with a flow rate measurement, the Uni-Probe LB 491 can also be used for determining the mass flow (t/h). The signal of the flow rate is directly transferred to the Uni-Probe as a 4-20 mA current signal before being internally offset against the density. The result is a reliable and precise mass flow measurement which combines all of the non-contacting measurement technology's benefits.

LB 491

Detector operating data

Power supply	100 … 240 VAC, ±10 %, 50 … 60 Hz, 15 VA 24 VDC (18 … 32 VDC), 15 W; 24 VAC +10 %/-15 %, 50 … 60 Hz, 15 VA
Cable connections	4 cable entries, 3/4 inch, NPT, closed with blind plug Option: metric adapters and cable glands upon request
Maximum cable length	3300 m (120 Ω), 1600 m (250 Ω), 800 m (500 Ω)
Wire cross-section	0.5 … 1.5 mm²
Housing material	Stainless steel ISO 1.4301 / AISI 304
Water cooling	Option, max. 6 bar

	Scintillator size Ø x length [mm]	Weight [kg]	Weight with cooling system [kg]	Collimator
CrystalSENS (point detectors)	50 x 50 NaI(Tl)	22,5	24	Standard
SuperSENS	150 x 150 polymer	52	62	Standard
Ambient temperature (Operation and storage)	-40 ... +60 °C (-40 ... +140 °F) for NaI(Tl) and/or -40 … +55 °C (-40 … +131 °F) for polymer Observe possible temp. restrictions for Ex-protection! for 100...240 VAC version, operation only up to max. 50 °C			
Temperature stability	≤0.002 %/°C (-40 ... +50 °C) for NaI(Tl) and/or ≤ 0.01 %/°C (-40 … +50 °C) for polymer			

Detector certificates & tests

IP protection	IP65 / IP66 + Nema 4X		
Explosion protection	ATEX:	II 2 GD EEx d IIB T5 IP66 T80 °C	-40 … +80 °C
		II 2 GD EEx d IIC T6 IP66 T80 °C	-40 … +60 °C
		(...+50 °C for LB 490 TowerSENS and SuperSENS)	
		II 2 GD EEx d [ia] IIC T6 IP66 T80 °C	-20 … +50 °C
	FM/CSA:	Class I Division 1 Group A, B, C, D	
		Class II Division 1, Group E, F, G	-40 … +50 °C
Other certificates	Nepsi, IECEx, Kosha, CCOE, others upon request		

Signal inputs and outputs

Signal output	HART 4 … 20 mA potential-free, active or passive max. impedance: 500 Ω (active) Power supply: 12 V … 24 V (passive) max. impedance at 12 V: 250 Ω and/or 24 V: 500 Ω (passive) Option: intrinsically safe HART current output 4 ... 20 mA, potential-free, passive Power supply: 12 ... 30 V, voltage drop <3.5 V, 20 m signal cable (blue), pre-assembled Exi IIB: Lo=14.78 mH; Co=679 nF / Exi IIC: Lo=2.18 mH; Co=84 nF
Bus output - option	Bus interface: Profibus PA or Foundation Fieldbus Bus powered, typical 13 mA with 2xAI function blocks Option: intrinsically safe Bus interface, 20 m signal cable (blue), pre-assembled Approval according to ATEX and FISCO
Digital inputs	Dig In 1: Hold input , Dig In 2: Empty adjustment
Analogue input	Pt100 for temperature compensation
Digital outputs	1 relay (SPDT) for collective fault message 3 relays (SPDT) alternatively for: Hold signal, min. / max. alarm, Detector temperature, radiation interference detection Permissible load at ohmic load: max. 5 A at 250 VAC or 30 VDC
Interfaces	RS 232 for software update
Data backup	in non-volatile memory

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Representantes / Distribuidores Exclusivos

Argentina
Tel: (+54 11) 5352 2500
Email: info@dastecsrl.com.ar
Web: www.dastecsrl.com.ar

Uruguay www.dastecsrl.com.uy
Paraguay www.dastecsrl.com.py
Bolivia www.tecdas.com.bo