



Distillation Process Analyzer DPA-4

BARTEC BENKE





EXPLOSION PROTECTION

Marking	ATEX: II 2 G IIC T4 Gb NEC 500: Class I, Div. 2, Groups B, C and D NEC 505: Class I, Zone 1, AEx d e ib px IIB or IIB+H2 TR CU Certification available
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TECHNICAL DATA

Technology Method	batch distillation SAM compliant with: ASTM D86, DIN EN ISO 3405, IP 123 Correlates with: ASTM D4814 (calculation of TV/L) ASTM D4737 (Calculated Cetane Index) RAM correlates with: ASTM D86, DIN EN ISO 3405, IP 123
Measuring range	20 to 420°C (68 to 788°F) output of any temperature/distillate amount via Modbus
Repeatability	≤ DIN EN/ASTM e.g. gasoline typ. T@ 50% rec. 1°C
Reproducibility	≤ DIN EN/ASTM
Measuring cycle	typical time for gasoline/diesel in SAM (in min) IBP: approx. 24/29 50 % recovered: approx. 36/41 FBP: approx. 45/50 cycle time will be reduced by approx. 40 % in RAM
Product streams	up to 3 x sample, 1 validation sample each (additional hardware required)
Electrical data	
Nominal voltage	230 VAC ± 10 %, 1 phase; 50 Hz; other ratings on request
Maximum power consumption	approx. 600 W
Protection class	IP 54 (NEMA 13)
Ambient conditions	
Ambient temperature	operation 5 to 40°C (41 to 104°F) storage 0 to 60°C (32 to 140°F)
Ambient humidity	operation 5 to 80 % relative humidity, non-corrosive storage 5 to 85 % relative humidity, non-corrosive
Sample Quality	filtered 50 µm, bubble-free (≤ 37 cSt at inlet temperature)
Consumption	approx. 10 to 40 l/h (≥ 10 cSt: max. 15 l/h)
Pressure at inlet	1.5 to 2 bar (21.8 to 29 psi)
Temperature at inlet	depends on application, max. 55°C (131°F)
Utilities	
Instrument air Consumption	Purge 8 Nm ³ /h while purging (~12 min)

Operation	approx. 1 Nm ³ /h
Pressure at inlet	2 to 7 bar (29 to 101.5 psi)
Quality	humidity class 2 or better acc. to ISO 8573.1

Coolant Consumption	max. 60 l/h
Temperature	-10 to 55°C (14 to 131°F)
Pressure at inlet	2 to 7 bar (29 to 101.5 psi)
Quality	filtered 50 µm

Signal outputs and inputs

Analog outputs	temperature at specific distillation batch
Digital outputs	Alarm, Ready / Valid
Digital inputs	Stream Selection, Validation Request, Reset

Electrical data of signal outputs and inputs

Analog outputs	max. 8 (4 to 20 mA; 1000 Ω) active isolated on request
Analog inputs	4 to 20 mA; 160 Ω
Digital outputs	24 VDC; max. 0.5 A
Digital inputs	high: 15 to 28 VDC low: 0 to 4 VDC

Auxiliary power supply output	24 VDC; max. 0.8 A
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Control unit

Central control unit	Industrial PC
Operating system	Windows Embedded Standard 7 [®]
Control software	PACS

User interfaces

Display	TFT display with touch function 1024 x 768 pixel
Keyboard	virtual keyboard, controlled via TFT display with touch function

Connections

Tube fittings	Swagelok [®] 6 mm/12 mm/18 mm other fittings on request
Vent/Drain	open to atmosphere backpressure on request

Weight and dimensions

Weight	approx. 250 kg
Dimensions (W x H x D)	approx. 1140 x 1900 x 710 mm
Space requirements	right: 150 mm / left: 100 mm

Optional interfaces

Analog outputs	on request
Analog inputs	density
MODBUS interface	MODBUS/RTU via RS485 or RS422 or FOC is, MODBUS/TCP via FOC is
Remote access	via Ethernet (VDSL or FOC is)

Important notice DPA-4 is subject to continuous product improvement, specifications are preliminary and may be subject to change without notice. If your technical data do not comply with existing data, please contact us for technical clarification.