



-power in control

DEIF A/S

Type Certificate

4124030077A

Type:	Modular Controller:
	Delomatic 400 Gas

Technical specifications	
* Measuring Voltage AC:	Max. 690V AC Burden max. 0.5mA or 0.3VA / phase
* Measuring Current:	-1I or -5A AC Burden max. 0,4VA / phase
* Measuring frequency:	40...70Hz
* Auxiliary supply	18...36V DC max. 6A consumption
* Binary input:	Optocoupler, bi-directional Impedance: 2.4k Ω Input voltage 9...36V DC
* Frequency inputs:	Optocoupler, bi-directional Impedance: 2.4k Ω Input voltage 9...36V DC Frequency: <20kHz, >40% duty cycle <10kHz, >20% duty cycle
* Analogue inputs:	-20...+20mA, impedance 50 Ω -10...+10V DC, impedance 10k Ω Galvanic separated (not from PT-100 inputs) Accuracy: 0.5% FR (reference temperature) 1.0% FR (operating temperature)
* PT-100 / PT-1000 input:	2-, 3- or 4-wire connection Resolution: 0.1 $^{\circ}$ C Measurement range: -50...200 $^{\circ}$ C Accuracy 4-wire: 0.5 $^{\circ}$ C (reference temperature) 2.0 $^{\circ}$ C (operating temperature) Accuracy 2-, 3-wire: 1.0 $^{\circ}$ C (reference temperature) 2.5 $^{\circ}$ C (operating temperature)
* NiCr-Ni input:	Resolution: 0.1 $^{\circ}$ C Range: -50...1000 $^{\circ}$ C Accuracy: \pm 5 $^{\circ}$ C (reference temperature) \pm 20 $^{\circ}$ C (operating temperature)
* Analogue outputs:	-20...+20mA with 0...500 Ω load Accuracy: 0.5% FR (reference temperature) 1.0% FR (operating temperature)
* Digital outputs:	Output voltage 8...35V DC with external supply 9...36V DC Output current 0...200mA source and sink
* Galvanic separation:	Between AC voltage, AC current, DC voltage and other I/O's: 3250 V AC, 50Hz, 1 minute Between relays outputs and other I/O's: 2200V AC, 1 minute Between binary input groups and other I/O's: 550V AC, 1 minute Between analogue I/O and other I/O's: 550V AC, 1 minute Between comm.. ports and other I/O's: 550V AC, 1 minute
Overload:	4 x I_n continuously 20 x I_n , 10 sec. (max 75A) 80 x I_n , 1 sec. (max 300A) 1.3 x U_n , continuously (VAC) 2 x U_n , 10sec (VAC)



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Type test specifications

Tested according to:

Temperature:	Reference: 15....30°C Operating -25....70°C Storage -40....85°C	IEC 60068-2-1, IEC 60068-2-1, IEC 60255-1 IEC 60255-1
Accuracy AC measurement:	Class 0.5 (reference temperature) Class 1.0 (operating temperature)	IEC 60688
Harmonics AC measurement:	Measured up to 500Hz	
Climate:	97% RH	IEC 60068-2-30, test Db IEC 60255-1
Vibration:	3...13.2Hz: 2.0mm _{pp} 13.2...100Hz: 0.7g 3...13.2Hz: 6.0mm _{pp} 13.2...50Hz: 2.1g Vibration response test. 10...58.1 Hz 0.15 mm _{pp} 58.1... 150 Hz 1 g Vibration endurance test. 10...150 hz 2 g Vibration seismic test. 3...8.15 Hz 15 mm _{pp} 8.15 ...35 Hz 2 g	IEC 60068-2-6 & DNV A IEC 60068-2-6 & DNV C IEC 60255-21-1 Class2 IEC 60255-21-1 Class2 IEC 60255-21-3 Class2
Repetitive shock (Bump)	20 g 16 msec.	IEC 60255-21-2 Class2
Shock:	50g, 11msec. half sine Shock response test. 10 g 11msec. Half sine Shock withstand test. 30 g 11 msec. Half sine Tested with 3 impacts in each direction in all 3 axes. Total 18 impacts per test.	IEC 60068-2-27, test Ea IEC 60255-21-2 Class2 IEC 60255-21-2 Class2
Safety:	Installation Cat.III 600V Pollution degree 2	EN 61010-1 tested at 50Hz, 1 min Each galvanic group tested to other Galvanic groups and to protection Earth.
EMC:		EN 61000-6-2/4 IEC 60255-26
	All plastic parts are self-extinguishing to UL94 (V0) Al-case, steel cover plates	
Protection:	Unit: IP20	IEC/EN 60529

*) Routine tested on all units according to specifications.

Remaining specifications are tested regularly by test sampling.



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20th August 2014
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Knud Jørgen Poulsen
R&D Product Approval Manager