

## ORION DG 3010.10 / DK 50

### DATA SHEET



#### Description

DG 3010.10/DK 50 from the ORION series is intended for use on small and medium-sized gas engines. A butterfly throttle valve controls the quantity of the air/fuel mixture and allows optimal engine control. Furthermore, in special applications it can be used as a gas flow valve. The direct acting integrated actuator is working in 4Q-operation. It comes with a well-proven contactless position feedback, while the former return spring is obsolete. The optimal price-performance ratio and durable, long-lived design are the main benefits of the systems.

#### Speed governor

The control unit incorporates a complete digital speed governor for speed and load control that offers different fields of application. For example generators with small engines or off-road vehicles. Configuration and parametrisation are managed via PC program or hand held programmer. Additionally analogue inputs allow extended control features.

#### Application range

- ➔ Gas engines
- ➔ Gas dosing
- ➔ Dual-fuel engines
- ➔ Gas mixing

#### Versions

- ➔ 30 mm throttle (approx. 20 - 35 kW stoichiometric)
- ➔ 42 mm throttle (approx. 35 - 75 kW stoichiometric)
- ➔ 50 mm throttle (approx. 75 – 110 kW stoichiometric)

#### Certificates and compliance

CE  
further compliances on request

#### Features

Fully integrated solution

4Q-operation

Reduced wiring, easy installation

High reliability

Any mounting position permissible

Suitable for naturally aspirated and turbo charged engines

Sealed valve shaft for draw-through or blow-through configuration

Shaft and throttle plate made of stainless steel material

Standard flange sizes for easy adaptation, also corresponding to HEINZMANN gas mixer

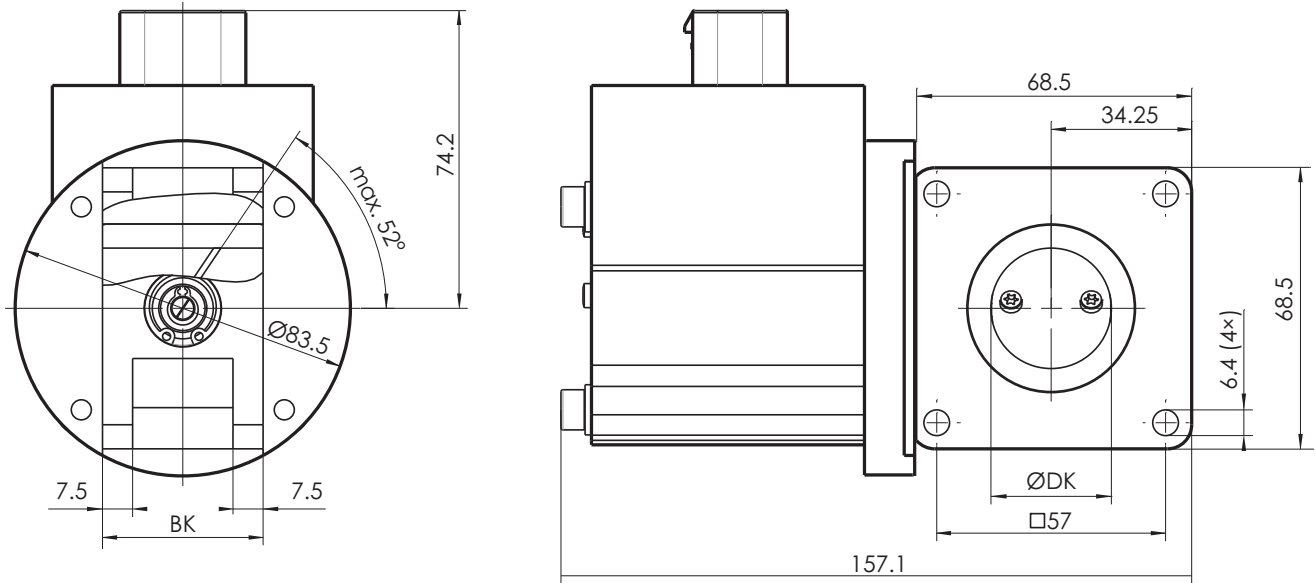
Maintenance-free

#### Monitoring

Common alarm output gives feedback on all detected error conditions:

- ➔ Sensor failure
- ➔ Application specific alarms
- ➔ Actuator overheating combined with current limitation
- ➔ Persistent discrepancy between positions setpoint and actual value (e.g. when shaft or throttle plate is blocked)

# Dimensions

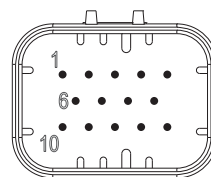


# Technical data

Technical data	
Ambient temperature	-30 ... +90 °C
Throttle valve boost pressure	max. 4 bar abs.
Throttle valve dimensions	ØDK: 30 or 42 mm / BK: 40 mm ØDK: 50 mm / BK: 56 mm
Throttle valve rotation angle	52°
Torque max. / steady state	0.60 Nm / 0.36 Nm
Response time	< 100 ms
Degree of protection	IP65
Vibration	± 3 mm at 10 ... 20 Hz, max. 0.24 m/s at 21 ... 63 Hz, max. 9 g at 64 ... 2000 Hz
Shock	30 g, 11 ms half sine wave
Humidity	permissible up to 95 % at 55 °C
Weight	approx. 1.3 kg

Electrical connections	
Voltage supply	24 VDC / 3 A
Setpoint	4 ... 20 mA
Actual position value output	0 ... 5 V
Common alarm output	300 mA, low-side switch
Wiring plug	TYCO 14 pole
Communication	DcDesk, HEINZMANN interface up to 57600 Baud; CAN communication optional, Interface ISO11898 e.g. SAEJ1939, HEINZMANN CAN baudrate up to 1 MBit/s

I/O ports	
Input resistance	200 Ohm
Port 1	0 ... 5 V / 4 ... 20 mA, 200 Ohm analogue input or digital input
Port 2	0 ... 5 V / 0 ... 10 V analogue input or digital input or 0 ... 5 V analogue output
Port 5	0 ... 5 V analogue or digital input or PWM input 10 ... 90 % duty cycle or temperature input Pt 1000, Ni 1000, Pt 200, Bosch NTC DS-S2-TF, Jumo NTC 2K3A1-25 or pick-up 2 (Hall)
Port 6	0 ... 5 V analogue input or digital input or pick-up 1 (inductive)



TYCO 14 pin view on plug side

Pin	Function
1	Port 5
2	CAN-Low
3	CAN-High
4	Power supply GND
5	Power supply (+)
6	Communication
7	DcDesk
8	Port 2
9	Port 6 (pick-up)
10	0 V reference voltage
11	Port 1
12	+5 V reference voltage
13	Digital out
14	GND

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