

PANDAROS II

Digital Control System DC 6



DC 2005.6 up to DC 2080.6

- ✓ Power generation
- ✓ Pump drives
- ✓ Locomotives
- ✓ Vehicles

Engine & Turbine Controls

HEINZMANN®

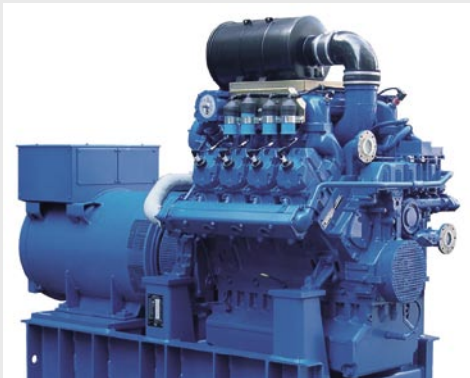


PANDAROS II

A new designed control system equipped with the latest digital technology, which can be used for a wide range of applications.

HEINZMANN offers a selection of PANDAROS Systems, which are based on several actuator series. No mechanical drive is required.

PANDAROS II is tailored for the power range up to 2 MW.



Features

- ✓ **User configurable for stationary (generators, pumps, etc) or driving applications (industrial vehicles)**
- ✓ **Overspeed protection**
- ✓ **Continuous sensor diagnostic**
- ✓ **Programmable start fuel limitation**
- ✓ **Engine temperature, boost pressure and speed dependent fuel limitation**
- ✓ **Fixed or variable speed control**
- ✓ **Configurable speed setpoint inputs**
- ✓ **Additional analogue inputs for synchronizing and isochronous load sharing**
- ✓ **PID mapping according to speed, temperature and load**
- ✓ **Extended feedback accuracy for the rack position control**



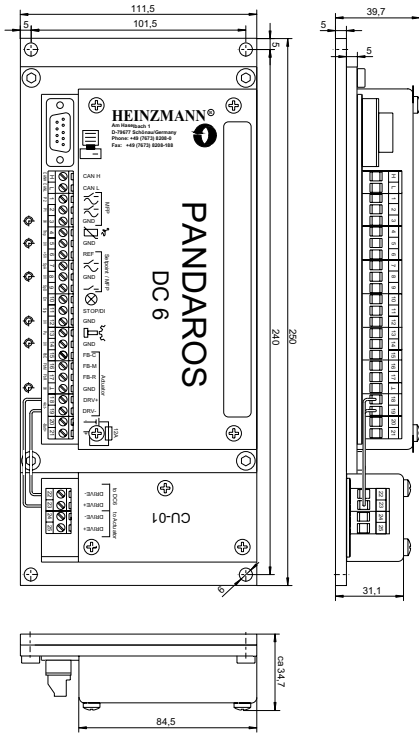
Programming can be done by means of HP 03 hand held programmer, or using the enhanced features of HEINZMANN's DcDesk 2000 PC program. Both can be used for setup, temporary monitoring and troubleshooting. In addition, the SATURN Remote Communication System is available.

PANDAROS II

Dimensional Drawing

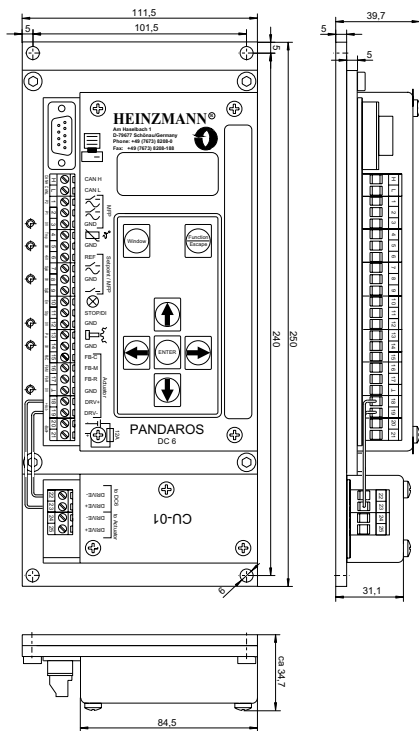
IP 00

without integrated Programmer



IP 00

with integrated Programmer



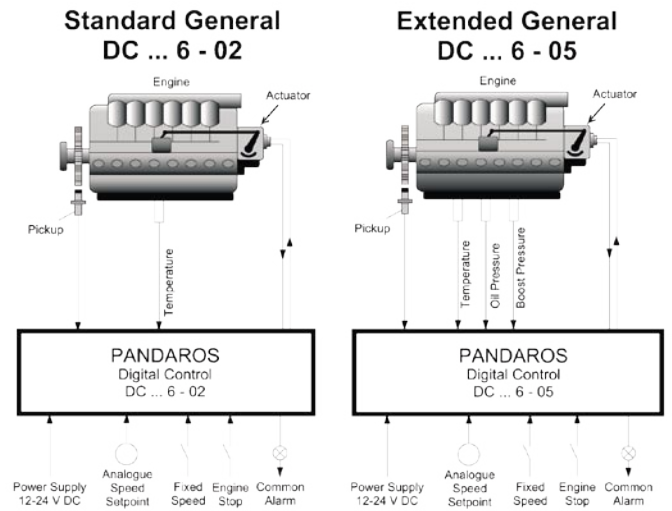
Control Unit DG 6

TECHNICAL INFORMATION

Operating voltage	24 V DC
Current consumption	max. 7A max. 11A for max. 60 seconds
Storage temperature	-40°C up to +85°C
Operation temperature	-40°C up to +80°C
Vibration resistance	max. 2 mm at 10 up to 20 Hz max. 0.24 mm at 21 up to 63 Hz max. 7 g at 64 up to 2000 Hz
Shock	30 g, 11 ms- half-sine
Protection	IP00 up to IP55
Weight	approx. 0.5 kg

The extensive range of digital control units DC 6 is available for different sized electronically powered HEINZMANN actuators StG 2005, StG 2010, StG 2040 and StG 2080. The following overview outlines the variation of applications and different versions.

Variants: Speed Governor General

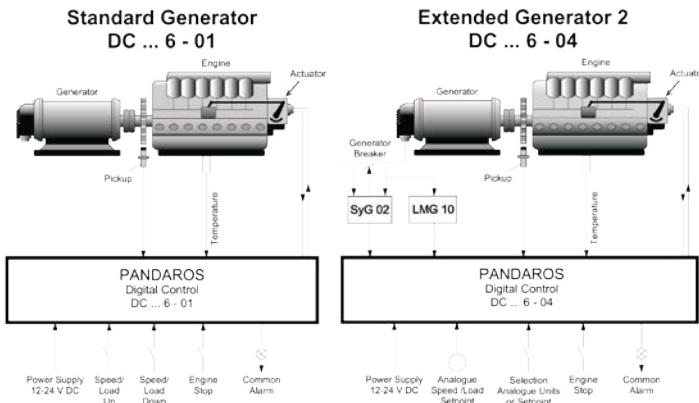


Examples: Speed Governor / General

Connections for	DG 6-02	DG 6-05
	Standard	Extended
Actuator	•	•
Speed Sensor	•	•
Temperature Sensor	•	•
Oil Pressure Sensor		•
Boost Pressure Sensor		•
Analogue Speed/Load Setpoint	•	•
Engine Stop Switch	•	•
Fixed Speed Switch	•	•
Common Alarm Output	•	•
Communication/Diagnosis	•	•
Power Supply 12 V or 24 V	•	•

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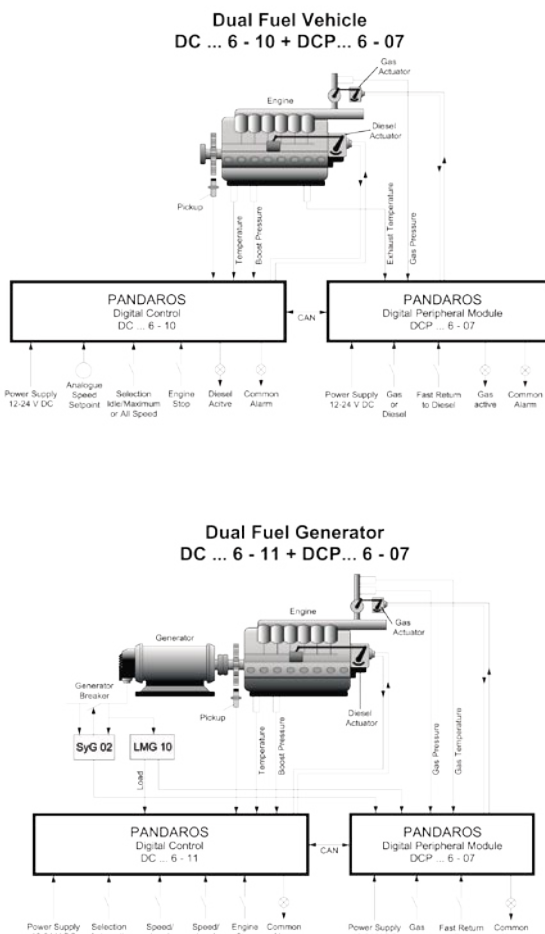
Variants: Speed Governor for Generator Sets



Connections for	DG 6-01	DG 6-04
	Standard	Extended
Actuator	•	•
Speed Sensor	•	•
Temperature Sensor	•	•
Load Control Input		•
Synchronizing Input		•
Analogue Speed/Load Setpoint		•
Up/Down Speed/Load Setpoint Switches	•	
Engine Stop Switch	•	•
Setpoint or Load/Synch Switch		•
Common Alarm Output	•	•
Communication/Diagnosis	•	•
Power Supply 12 V or 24 V	•	•

Examples: Speed Governor / Generator

Variants: Dual Fuel Speed Governor

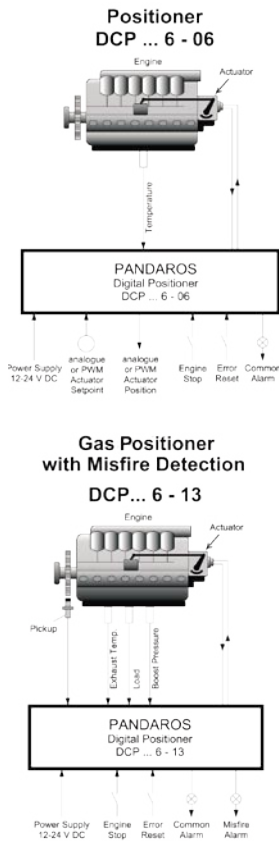


Connections for	DG 6-10 Speed Governor	DG 6-07 Peripheral Module	DG 6-11 Speed Governor	
	Dual Fuel Vehicle	Dual Fuel Generator		
Actuator	• Diesel	• Gas	• Gas	• Diesel
Speed Sensor	•			•
Coolant Temperature Sensor	•			•
Alternative		•	•	
Boost Pressure Sensor	•			
Gas Pressure Sensor		•	•	
Measured Load				•
Load Control Input			•	
Synchronizing Input			•	
Analogue Speed/Load Setpoint	•			
Up/Down Speed/Load Setpoint Switches				•
Engine Stop Switch	•			•
Fixed Speed Switch				•
Idle/Max or All Speed Gov. Switch	•			
Auto or Manual Mode Switch				•
Gas or Diesel Switch		•	•	
Fast Return to Diesel Switch		•	•	
Diesel Active Output	•			
Gas Active Output		•		
Common Alarm Output	•	•	•	•
Communication/Diagnosis	•	•	•	•
CAN Bus (HEINZMANN Protocol)	•	•	•	•
Power Supply 12 V or 24 V	•	•	•	•

Examples: Dual Fuel Speed Governor

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Variants: Positioner / Peripheral Module



Connections for	DGP 6-06	DGP 6-07	DGP 6-13
	Positioner	Peripheral Module	Gas Positioner with Misfire Detection
Actuator	•	•	•
Speed Sensor		•	•
Temperature Sensor	•	•	•
Measured Load			•
Analogue Actuator Setpoint	• alternative	•	
PWM Actuator Setpoint	• alternative		
HEINZMANN CAN Actuator Setpoint		•	
Engine Stop Switch	•		•
Error Reset Switch	•		•
Analogue Actuator Position Output	• alternative		
PWM Actuator Position Output	• alternative		
Misfire Alarm Output			•
Up to 4 Analogue Inputs		• alternative	
Up to 3 PWM Inputs		• alternative	
Up to 2 Current Outputs		• alternative	
Up to 2 PWM Outputs		• alternative	
Up to 2 Digital Outputs		• alternative	
Common Alarm Output	•	•	•
Communication/Diagnosis	•	•	•
CAN Bus (HEINZMANN Protocol)*		•	
Power Supply 12 V or 24 V	•	•	•

*connected to Control Unit

Examples: Positioner / Peripheral Module

Actuators StG 2005 to StG 2080

An assembly of permanent magnets is mounted on the centre shaft of the actuator. Opposite the magnets is a coil body assembly with internal power coils.

In addition, the output shaft in each is fitted with a feedback eccentric cam that allows a sensor to read the position of the shaft without actually touching it. The sensor then transmits this information to the control unit. In the event of speed changed, this setup allows the governor to control the movement of the output shaft.

If either actuator shaft is blocked, for example, because of an engine overload or a cylinder failure, a limiter reduces current to the actuator after 20 seconds, protecting it from overheating.

Technical Data	StG 2005.10	StG 2010.11	StG 2010.21	StG 2040.11	StG 2040.25	StG 2080.11	StG 2080.21
Output shaft travel	32°	36°	68°	36°	68°	36°	68°
Max. torque at output shaft (in stop direction) approx.	0,8 Nm	1,4 Nm	1,4 Nm	6,5 Nm	7 Nm	11 Nm	9 Nm
Torque in steady state condition approx.	0,4 Nm	0,7 Nm	0,7	3,2 Nm	3,5 Nm	5,5 Nm	4,5 Nm
Time for full travel (without load) approx.	40 ms	45 ms	45	50 ms	80 ms	60 ms	90 ms
Current consumption of whole governor: • maximum current • safe current in steady state condition	1-2 A 4.5 A						
Storage temperature	-55°C to + 110°C						
Operation temperature	-40°C to + 90°C						
Humidity	up to 98%						
Protection grade	IP 55						
Weight (stand only)	1,6 kg	2,2 kg		4,6 kg	6,6 kg	7,7 kg	10 kg



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Selection of HEINZMANN products

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Different sized electrical actuators for 1Nm up to 500 Nm



Electronic fuel control system (EFI) - control units from 4 cyl. up to 20 cyl. engines



Range of analogue and digital generator management units



Gas engine management



Common rail systems



Sensors & solenoids



Digital control systems for gas turbines



Hydraulic governors & actuators



Quality & Precision since 1897

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