

LabCON_V4

Test control unit for BLDC fuel pumps

OVERVIEW OF LABCON_V4

The operation of electrical fuel pumps under test conditions takes high demands on the testing equipment regarding the reproducibility and reliability.

The LabCON_V4 test control unit from Bosch Engineering GmbH was specially designed for applications relating to the development, long-term testing and quality assurance of Bosch fuel pumps with brushless direct current (BLDC) motors.



LabCON_V4

Functions

- ▶ Testing and control of Bosch BLDC (brushless direct current) fuel pumps
- ▶ Sensorless control of BLDC motors via Back-EMF
- ▶ PWM and LIN control interface
- ▶ Integrated diagnostics functionality
- ▶ Internal temperature monitoring
- ▶ Voltage and current monitoring
- ▶ LIN interface for device calibration

It offers full control unit functionality for PWM- and speed-controlled operation of electronically commutated fuel pumps. The speed is controlled by determining the Back-EMF and does not require any additional sensors. The LabCON_V4 features, PWM and the LIN interface enable integration in the test bench system. The PWM interface is used to simply specify the speed setpoints (duty cycle variation). Additional internal process variables (such as speed, PWM duty cycle) can be queried and software parameters (such as regulator parameter, start speed, current limitation) can be configured via LIN. In addition, error codes are output via the LIN interface in the event of an error. Both signal inputs are galvanically isolated and are therefore robust against LabCON_V4 external interference.

TECHNICAL FEATURES

LabCON_V4	
Dimensions (H x W x D)	50 x 200 x 155 mm
Operating voltage	5 – 18 V
Maximum voltage < 2 min.	28 V
Continuous current	20 A
Maximum current < 2 min.	25 A
Switching Frequency	20 kHz
Control interface	PWM, LIN
PWM frequency	100 – 500 Hz
Control	sensorless via back-EMF
Perm. ambient temperature	5 °C – 40 °C
Application for EKP motor type	FP-D.46-BLDC diesel FP-G.42-BLDC gasoline FP-G.38-BLDC gasoline
Motor speed	max. 8,000 rpm

Order data

Article description

Testing control unit LabCON_V4 BLDC EKP

Item numbers / firmware versions

F037.B00.111-02 DRYRUN

Unit for operation with constant speed (1,500 rpm)

F037.B00.111-03 EXT

Extended version; unit with freely adjustable software parameters via LIN interface

F037.B00.111-04 GASOLINE

Unit with preset software parameters for use with gasoline EKP; without LIN parameterization; PWM and LIN control interface

F037.B00.111-05 DIESEL

Unit with preset software parameters for use with diesel EKP; without LIN parameterization; PWM and LIN control interface

F037.B00.111-06 PLANT

Unit with plant-specific functionality; control possible via PWM and LIN interface, application of the EKP type (gasoline or diesel) possible via LIN interface

Price and delivery time / individual solutions

upon request

SCOPE OF DELIVERY

LabCON_V4 test control unit for BLDC fuel pumps

BLDC motor control; speed control and PWM duty cycle operating mode; PWM and LIN interface; sensorless control; configuration via LIN

Documentation

User manual and LIN interface documentation

Bosch Engineering GmbH

Bergfeldstraße 2
83607 Holzkirchen
Deutschland
TestingTechnology.BEG@de.bosch.com
www.bosch-engineering.com