STG-800

Power Mini-PLC
ARM® Cortex®

3 ANALOG INPUT	2 DIGITAL INPUT	4 POWER OUTPUT	1 POWER PWM
FREQUENCY MEASURING	PULSE MEASURING	EVENT COUNTER	SOLID STATE
CAN 2.0A/B open®	SAE J1939	miCon-L	OPEN SOURCE
ARM® CORTEX®	°C -40/+70	7..32V=	SHOCK PROOF

FEATURES

- Tiny and super-flat CAN Logic Controller
- High-Performance 32 Bit ARM® Cortex®
- 3 analog Inputs 0 to 30 VDC, 12 bit ADC
- Event Counter Input 25 kHz
- Pulse and Frequency Counter Input 40µs
- 4 Solid-State Power Outputs up to 1.5 A
- 1 Power PWM Output 16 Bit 1 Hz to 25 kHz
- CAN 2.0A/B and SAE J1939 Interface
- CANopen® Interface (Open Source)
- Comprehensive Fail Safe Functions
- TTL-232 3.3V Interface
- Intuitive graphical Programming Capability
- Open Source Programming Option
- Wide Operating Voltage Range 7 to 32 VDC
- Wide Operating Temp. Range -40 to +70°C
- Vibration resistant and rugged Sealing
- Engineered and manufactured in Germany

APPLICATIONS

- Industrial and Building Automation
- Automotive and Maritime Technology
- Technical Education / University
- White Goods

DESCRIPTION

The tiny STG-800 extends the well established BARTH® Mini-PLC series with the smallest model coming with a powerful 32 bit ARM® Cortex® Core.
As the top-of-the-range product the STG-800 features a rugged CAN/CANopen® interface with intuitive graphical programming capability at lowest current consumption and the well-known small form factor.

The 32 bit ARM® Cortex® core now provides two high speed event, pulse and frequency counter inputs and one 16 bit PWM output combined with a precise internal voltage reference for the 12 bit analog inputs. The automotive-qualified CAN2.0A/B/CANopen® interface is able to operate in noisy environment and allows the user to connect a variety of network components to the Mini-PLC.

The STG-800 does not need any peripheral components to operate. Both inputs and outputs features highly integrated and rugged protection circuits to operate the Mini-PLC in really harsh environment.
These outstanding features open up a variety of application fields in industrial, automotive and 12/24V battery-powered applications.

The STG-800 is also available as customer-tailored OEM version within 8 weeks.

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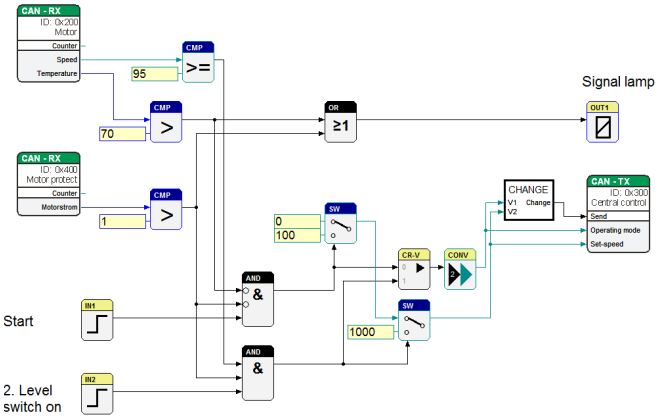
BARTH® Elektronik GmbH

STG-800

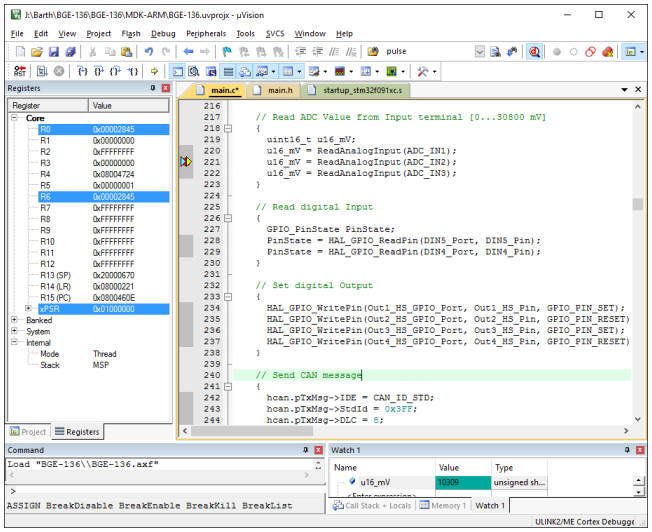
PROGRAMMING WITH MICON-L

Without learning a difficult programming language the Mini-PLC STG-800 can be easily programmed using simple and vivid graphical function blocks. This block design meets graphical standards of the latest graphical programming languages.
The miCon-L software suite features programming, simulation and test in one unique software design tool. The flexible CAN programming option offers a variety of possibilities in industrial, automotive and maritime applications. CAN programming has never been easier!



OPEN SOURCE C-PROGRAMMING

The STG-800 can also be programmed as Open Source Mini-PLC using the powerful KEIL® µVision® Software Suite. For everyone who is familar with C-Programming this option opens up a variety of hardware-oriented features in a realtime environment with powerful debugging features.



SPECIFICATIONS

Operation Voltage	7 to 32 VDC
Current Consumption	nominal 10 mA at 32 VDC
Fusing	5 A max. (external)
CAN	CAN 2.0A/B (miCon-L/Open Source) 50, 100, 125, 250, 500 kbit, 1Mbit CANopen®, SAE J1939 (OS) NMEA 2000 (OS)
Analog Input IN1 - IN3	U_{IN} = 0 to 30 VDC, R_i > 11 kOhm
Digital Input IN4 - IN5	U_{IN} = 0 to 30 VDC, R_i > 20 kOhm U_{LOW} < 3 VDC, U_{HIGH} >= 5VDC f_{IN} <= 25 kHz, t_{IN} >= 40 µs
Accuracy ADC	< 0,15 VDC 12 Bit
Digital Output OUT1 - OUT4	I_{OUT} <= 1.5 A (resistive load) @ f_{OUT} = 0 to 100 Hz U_{OUT} >= U_{IN}-0.45 V, I_{TOT}<= 4 A
PWM Output OUT5	I_{OUT} <= 2 A (resistive load) @ f_{OUT} = 0 to 25 kHz (16 bit) U_{OUT} <= GND+0.25 V
Memory	256 kB Flash program memory 32 kB SRAM, 64 kB EEPROM
Security Features	System and independent watchdog Fail safe oscillator Power on/down reset Supply voltage supervisor
Conformity	2004/108/EG, 2004/108/EC 2014/30/EU
Electrical Connection	plugable spring terminal connectors 0.25 to 1.5 mm²
Operation Temp.	-40 to +70 °C (IEC 60068-2-1/2)
Storage Temp.	-40 to +70 °C (IEC 60068-2-1/2)
Shock Resistance	min. 100 m/s² (10G)
Vibration Resistance	min. 50 m/s² (5G) @ 10 to 100 Hz
Protection Grade	IP 20
Housing Material **Potting Material**	Grilon TSG-30/4, UL: V0 Polyurethane resin, UL: V0
Weight	50 g (without connectors)
Dimensions	60 x 45 x 11 mm (LxWxH)
Ordering Information Mini-PLC	Mini-PLC STG-800 Art. No. 0850-0800 GTIN 4251329401207
Ordering Information Accessory	Connection Cable VK-16 (miCon-L) Art. No. 0091-0016 GTIN 4251329400187
	Connection Cable VK-35 (OS) Art. No. 0091-0035 GTIN 4251329401276
	Programmer ST-Link/V2 ISOL Art. No. 0017-0066 GTIN 4251329401269

DOCUMENTS, VIDEOS & SOFTWARE

www.barth-elektronik.de

www.micon-l.de

www2.keil.com/stmicroelectronics-stm32/mdk

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