# STG-560

## CAN Mini-PLC
## Open Source

| | | | |
|---|---|---|---|
| **3** ANALOG INPUT | **2** DIGITAL INPUT | **4** POWER OUTPUT | **1** POWER PWM |
| 10101 11010 OPEN SOURCE | **CAN** BUS | TTL-232 | SOLID STATE |
| STATUS LED | 7..32V= | °C -40/+70 | SHOCK PROOF |

## FEATURES

- Small and universal CAN Logic Controller
- Programmable with all PIC18® Compilers
- 3 analog Inputs 0..30 VDC, 12 bit ADC
- 2 digital Inputs up to 10 kHz
- 4 Power Outputs up to 1.5 A
- 1 Power PWM Output 2 A/1 to 32 kHz
- 1 CAN/RS485 Interface
- Reliable Solid-State Outputs
- Fail Safe Oscillator 16 MHz
- Programmable Status LED
- TTL-232/USB Connection to PC
- Wide Operating Voltage Range 7..32 VDC
- Wide Operating Temp. Range -40..+60°C
- Tiny Housing
- Vibration resistant and rugged Sealing
- Engineered and manufactured in Germany

## APPLICATIONS

- Technical Education
- Industrial Automation
- Test Systems

## DESCRIPTION

The innovative STG-560 extends the established BARTH® CAN Mini-PLC series with an outstanding Open Source hardware concept.

With similar dimensions in comparison to the STG-500, the STG-560 provides hardware-oriented microcontroller programming at lowest current consumption and the well-known small form factor.

The CAN/RS485 interface allows the user to connect a variety of network components to the Mini-PLC, for example: displays, stepper motors or CAN sensors.

The STG-560 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.
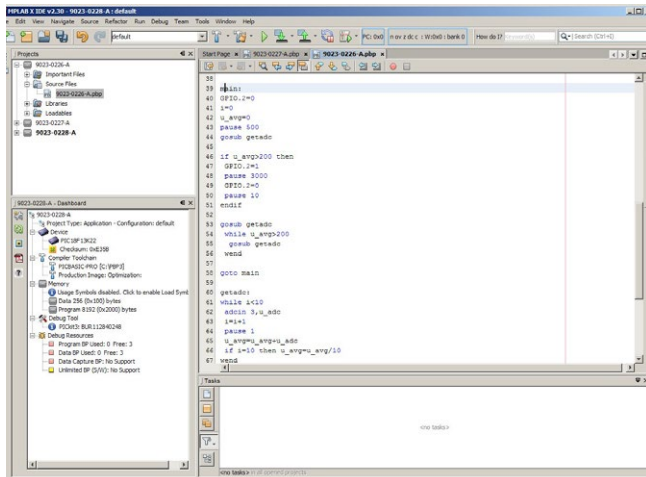
The STG-560 is also available as customer-tailored OEM version.

**BARTH** Elektronik GmbH

# STG-560

## OPEN SOURCE PROGRAMMING

The BARTH® Mini-PLC STG-560 features an outstanding Open Source hardware concept and is able to be programmed using your favourite compiler supporting the MICROCHIP® PIC18® microcontroller family.

BARTH® and a variety of distributors supports powerful and easy-to-use C- and BASIC-Compilers to tap the full potential of the STG-560.



In common the compiler language tool is integrated in the free MICROCHIP® MPLABX® development suite to ensure easy-to-use progamming, simulating and debugging in one unique software tool.

BARTH® provides a variety of programming templates for their Open Source Mini-PLC´s to ensure fastes access to the programming language.

## SPECIFICATIONS

| | |
|---|---|
| **Design** | Mini-PLC fully enclosed in resin filled housing with plugable spring terminal connectors |
| **Programming** | Open Source MICROCHIP® ICSP (C, BASIC, Assembler) |
| **Operation Voltage** | 7 to 32 VDC |
| **Current Consumption** | nominal 15 mA at 32 VDC (depending on configuration) |
| **Fusing** | 5 A max. (external) |
| **CAN Interface** | CAN or RS485 |
| **Digital Input IN1 - IN2** | $U_{IN}$ = 0 to 30 VDC, $R_I$ > 30 kOhm<br>$U_{LOW}$ <= 5 VDC, $U_{HIGH}$ > 5VDC<br>$f_{IN}$ <= 10 kHz, $t_{IN}$ >= 100 µs |
| **Analog Input IN3 - IN5** | $U_{IN}$ = 0 to 30 VDC, $R_I$ > 11 kOhm |
| **Accuracy ADC** | ± 2% (0.25 VDC) 12 Bit |
| **Digital Output OUT1 - OUT4** | $I_{OUT}$ <= 1.5 A (resistive load) @ $f_{OUT}$ = 0 to 200 Hz<br>$U_{OUT}$ >= $U_{IN}$-0.45 V, $I_{TOT}$ <= 4 A |
| **PWM Output OUT5** | $I_{OUT}$ <= 2 A (resistive load) @ $f_{OUT}$ = 1 kHz to 32 kHz<br>$U_{OUT}$ <= GND+0.25 V |
| **Security Features** | Watchdog (WD)<br>Fail safe oscillator (FSO)<br>Brown out detection (BOD)<br>Power up timer (PUT)<br>(depending on configuration) |
| **Conformity** | 2006/95/EG, 2004/108/EG<br>EN60730-1, EN61010-1,<br>EN50081-1, EN50082-1<br>EN 60068-2-78: 2002<br>EN 60068-2-6: 2008<br>ISO 16750-3: 2007 |
| **Electrical Connection** | plugable spring terminal connectors 0.25 to 1.5 mm² |
| **Operation Temperature** | -40 to +70 °C (IEC 60068-2-1/2) |
| **Storage Temperature** | -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 |
| **Weight** | 50 g (without connectors) |
| **Dimensions** | 40 x 40 x 22 mm (LxWxH) |
| **Ordering Information Mini-PLC** | Mini-SPS STG-560<br>Art.-No. 0850-0560 |
| **Ordering Information Accessory** | Programmer PICkit3<br>Art. No. 0017-0045 |
| | Connection cable VK-6 for PICkit3<br>Art. No. 0091-0006 |
| | Connection cable VK-16 USB<br>Art. No. 0091-0016 |

## DOCUMENTS & SOFTWARE

Detailed information and additional documents relating to this product are downloadable from

**www.barth-elektronik.de**

**BARTH**
Elektronik GmbH