

## Product Information

# ALL-IN-ONE.NTC Controller

## Product Discontinuation and Replacement

MOTORTECH announced the discontinuation of the ALL-IN-ONE.NTC Controller from **March 31, 2022**.

The ALL-IN-ONE.NTC Controller will be replaced by the new ALL-IN-ONE.GAS controller as state-of-the-art gen-set controller.

### General Features ALL-IN-ONE.GAS

- Predefined and adjustable functions for gas engine driven generator sets
- Large built-in Soft PLC for individual requirements and design of sophisticated applications like CHP (Cogeneration)
- SIL2 certification for selected channels
- Compliant to grid code requirements including VDE-AR-N 4105, VDE-AR-N 4110, BDEW directives and United Kingdom G99\*
- Support of a wide range of applications – Operation of single or multiple gas engines in island or mains parallel operation
- Power management function including new mode of effective engine run in mains parallel operation
- Plug&Play support of ALL-IN-ONE.Vision displays
- Automatic synchronization and power control (via speed governor or ECU)
- Event-based history with user selectable list of stored values; Real Time Clock (RTC); statistic values
- Overspeed and emergency stop detection

### ALL-IN-ONE.NTC



### ALL-IN-ONE.GAS



### Ordering Information

P/N	Supersedes	Description
63.50.096	63.50.102, 63.50.102-HSS, 63.50.104, 63.50.104-HSS, 63.50.041, 63.50.110	ALL-IN-ONE.Gas Controller – universal gen-set controller (incl. AFR control <sup>1)</sup> and AirGate® technology)
<sup>1)</sup> Requires hardware dongle P/N 63.50.061 or 63.50.062 for activation.		

\* In combination with mains decoupling relay P/N 63.50.139 – Type tested (TT) compliance according ENA EREC G99

#### DISTRIBUTION

Customers / others	Yes
Representatives and Sales Partners	Yes
OEM partners	Yes
MOTORTECH subsidiaries	Yes

## Product Information



### Comparison ALL-IN-ONE.GAS / ALL-IN-ONE.NTC

Features	ALL-IN-ONE.GAS	ALL-IN-ONE.NTC
Integrated Soft PLC	<ul style="list-style-type: none"> <li>■ PLC functions:                             <ul style="list-style-type: none"> <li>– Up to 32 PID blocks, 16 with binary outputs, 16 with analog outputs</li> <li>– Up to 256 AND/OR functional blocks</li> <li>– Up to 48 delay PLC blocks</li> <li>– Up to 32 ana switch PLC blocks</li> <li>– Up to 80 comparator PLC blocks</li> </ul> </li> <li>■ Up to 256 PLC binary outputs can be used</li> <li>■ Up to 96 PLC analog outputs can be used</li> <li>■ Up to 128 PLC setpoints can be used</li> </ul>	<ul style="list-style-type: none"> <li>■ PLC functions:                             <ul style="list-style-type: none"> <li>– Up to 22 PID blocks, 16 with binary outputs, 6 with analog outputs</li> <li>– Up to 100 AND/OR functional blocks</li> <li>– Up to 24 delay PLC blocks</li> <li>– Up to 16 ana switch PLC blocks</li> <li>– Up to 40 comparator PLC blocks</li> </ul> </li> <li>■ Up to 64 PLC setpoints can be used</li> </ul>
ECU support	<ul style="list-style-type: none"> <li>■ Supports up to 8 ECU blocks                             <ul style="list-style-type: none"> <li>– 128 analog inputs via J1939</li> <li>– 128 binary inputs via J1939</li> <li>– 16 analog outputs via J1939</li> <li>– 64 binary outputs via J1939</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Supports up to 3 ECU blocks                             <ul style="list-style-type: none"> <li>– 48 analog inputs via J1939</li> <li>– 48 binary inputs via J1939</li> <li>– 12 analog outputs via J1939</li> <li>– 48 binary outputs via J1939</li> </ul> </li> </ul>
Support of Start-Up Synchronization (SUS)	<ul style="list-style-type: none"> <li>■ Dedicated for installations where multiple generator sets shall be synced to common bus in very short time</li> <li>■ Dedicated for applications where e.g. soft magnetizing of a transformer is needed</li> </ul>	<ul style="list-style-type: none"> <li>■ No support</li> </ul>
Communication plug-in modules	<ul style="list-style-type: none"> <li>■ Supports the connection of up to 2 I-CB modules, means simultaneous use of e.g.                             <ul style="list-style-type: none"> <li>– I-CB Modbus, acting as a Modbus master</li> <li>– I-CB for e.g. MWM® engines with TEM control system</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ Supports the connection of 1 I-CB module</li> </ul>
Number of supported modules (new I/O modules)	<ul style="list-style-type: none"> <li>■ Up to 15 AIN8 or AIN8TC modules</li> <li>■ Up to 15 IO8/8 modules</li> </ul>	<ul style="list-style-type: none"> <li>■ Up to 10 AIN8 or AIN8TC modules</li> <li>■ Up to 12 IO8/8 modules</li> </ul>
Support of the new AIO9/1 module	<ul style="list-style-type: none"> <li>■ 4 analog inputs for battery measurement up to 60 V</li> <li>■ 4 analog inputs for thermocouple measurements</li> <li>■ 1 analog output (PWM, mA, V)</li> </ul>	<ul style="list-style-type: none"> <li>■ 4 analog inputs for battery measurement up to 60 V</li> <li>■ 4 analog inputs for thermocouple measurements</li> <li>■ 1 analog output (PWM, mA, V)</li> </ul>
Air/fuel ratio (AFR) control algorithm	<ul style="list-style-type: none"> <li>■ Improved behavior in island operation – faster reaction of the air/gas mixer thanks to predefined fixed positions</li> <li>■ Adjustable PID speed – for stoichiometric applications with variable load</li> <li>■ 2 independent AFR mappings for 2 engine banks on V-engines or 2 different fuel types (e.g. biogas or natural gas)</li> </ul>	<ul style="list-style-type: none"> <li>■ Standard behavior</li> <li>■ Non adjustable PID speed</li> <li>■ 1 AFR mapping</li> </ul>
Languages	Minimum of 6 languages	English or English +1 (depending on size of configuration)

Customers / others	Yes
Representatives and Sales Partners	Yes
OEM partners	Yes
MOTORTECH subsidiaries	Yes

## Product Information

### Compatibility

The AIO.GAS is supporting all AIO extension modules, provided by MOTORTECH and the following displays

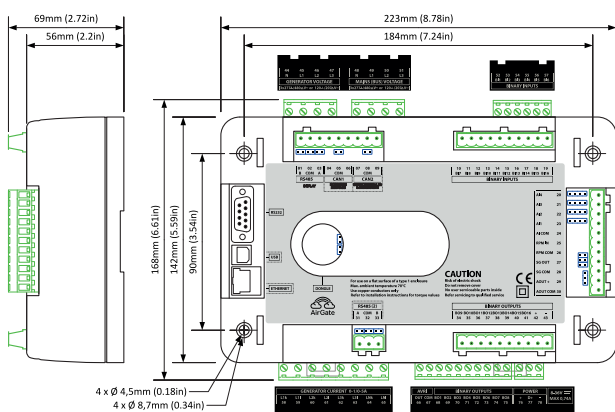
- 63.50.105 – ALL-IN-ONE.Vision5 display – 5.7 in color display unit for ALL-IN-ONE.NTC and ALL-IN-ONE.GAS controllers
- 63.50.101 – ALL-IN-ONE.Vision8 display – 8.0 in color display unit for ALL-IN-ONE.NTC and ALL-IN-ONE.GAS controllers
- 63.50.097 – ALL-IN-ONE.Vision12 display – 12.0 in color touch display unit for ALL-IN-ONE.NTC and ALL-IN-ONE.GAS controllers
- 63.50.129 – ALL-IN-ONE.Vision18 display – 18.5 in color touch display unit for ALL-IN-ONE.NTC and ALL-IN-ONE.GAS controller

The AIO.GAS is **not** supporting the following items:

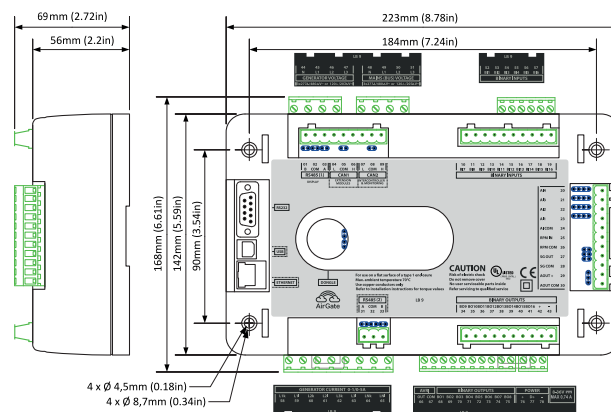
- ECON3 Speed Controller → use: SC100 Speed Control 63.50.114
- 63.50.103 – ALL-IN-ONE.NT display

### Dimensions and Connections

#### ALL-IN-ONE.GAS



#### ALL-IN-ONE.NTC



### Software

The AIO.GAS requires a different programming file than the AIO.NTC. A new programming is necessary.

#### DISTRIBUTION

Customers / others	Yes
Representatives and Sales Partners	Yes
OEM partners	Yes
MOTORTECH subsidiaries	Yes