Wiring and Communication between Ignition Controller and DetCon2/20

This application note contains general information on wiring and communication between an ignition controller MIC3+/MIC4/MIC5 and a detonation control system DetCon2/20 from MOTORTECH.

The application note is aimed at personnel tasked with the setup, operation, maintenance, and repair of gas engines. A certain level of technical knowledge with respect to the operation of gas engines and basic knowledge of electronic ignition systems are necessary.

NOTICE

Read the operating manuals of the devices

This application note is an addition to the operating manuals of the ignition controller and the detonation control system. Read and understand the complete documentation of both devices prior to start-up.

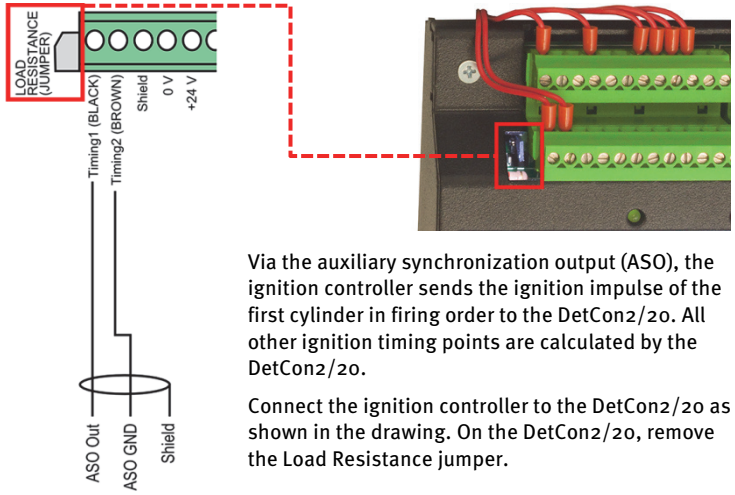
NOTICE

MOTORTECH recommends using the analog current signal

The DetCon2/20 can also transmit the ignition timing adjustment via the analog voltage signal. However, for most cases, MOTORTECH recommends using the analog current signal. When a failure threshold has been set, using the analog current provides reliable protection for the engine in case of a cable break.

Wiring

DetCon2/20

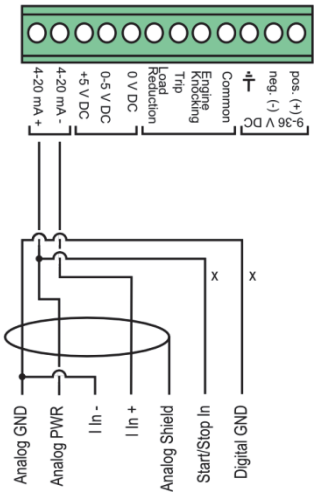


Ignition controller

Via the auxiliary synchronization output (ASO), the ignition controller sends the ignition impulse of the first cylinder in firing order to the DetCon2/20. All other ignition timing points are calculated by the DetCon2/20.

Connect the ignition controller to the DetCon2/20 as shown in the drawing. On the DetCon2/20, remove the Load Resistance jumper.

DetCon2/20



Ignition controller

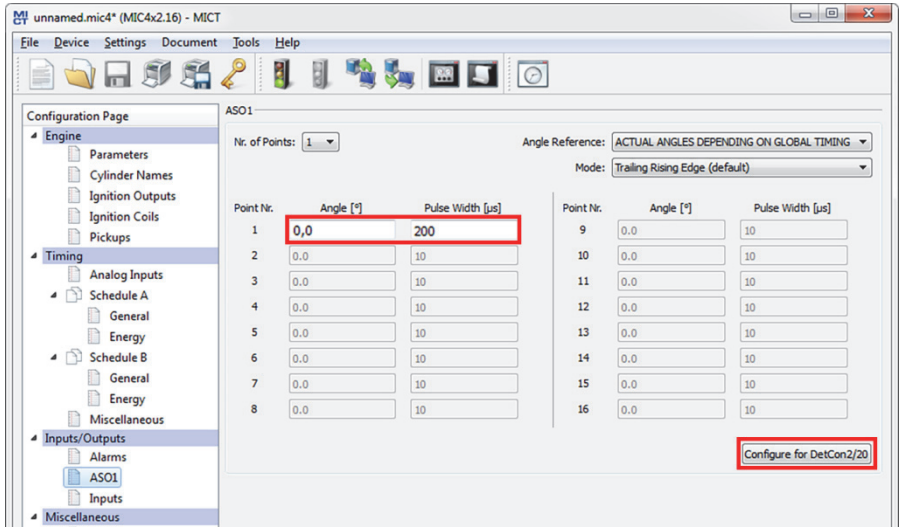
Via the analog current signal (4-20 mA), the DetCon2/20 sends the required ignition timing adjustment to the ignition controller.

Connect the ignition controller to the DetCon2/20 as shown in the drawing. (The bridge for permanent authorization [x] must be removed for external ignition authorization.)

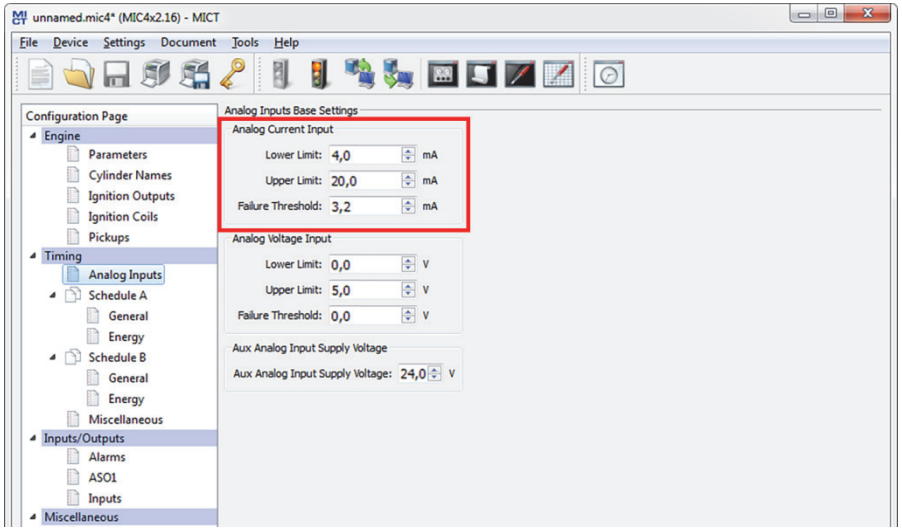
- The wiring between ignition controller and DetCon2/20 has been established.

Settings in the MICT

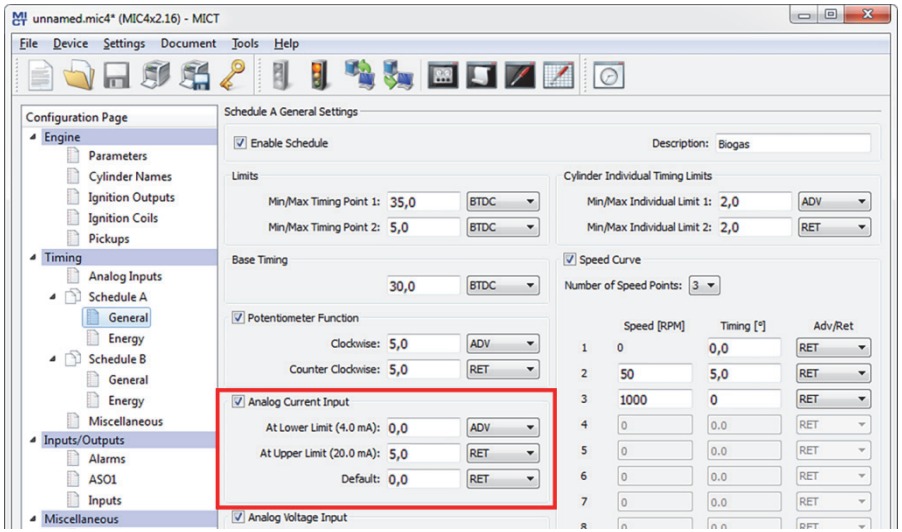
1. In the view *ASO1*, click *Configuration for DetCon2/20* to configure the auxiliary synchronization output of the ignition controller. Individual settings can be made.



2. In the view *Analog Inputs*, set the *Lower Limit* of the analog current input to 4 mA and the *Upper Limit* to 20 mA, and set a *Failure Threshold*.



3. In the view *Schedule A/B – General*, activate the analog current input and set the ignition timing adjustment for 4.0 mA and for 20.0 mA.



4. Upload the configuration to your ignition controller.
   - ▸ You have configured the MICT to operate with the DetCon2/20.

Configuration example

For the illustrated trend of the ignition timing adjustment, the following settings were made in the MICT:

- The base timing is set to 30° BTDC.
- In the view *Analog Inputs*, the analog current input is set to 4 mA to 20 mA.
- In the view *Schedule A/B – General*, the lower limit of the analog input signal is set to 0° retard and the upper limit is set to 15° retard.