

# SRA-EDL16 R02

ECU with Internal data logger,  
DBW control, high number of  
Inputs/Outputs

## Description

SRA-EDL16 is a dedicated Engine Control Unit. A single unit can drive up to eight injectors and six ignition coils. SRA-EDL16 can drive logic command coils (SW option). SRA-EDL16 is an engine control unit which includes data logger and a very high speed Ethernet line to download data. Communication from the PC based configuration tool and to other units (such as dashboard and logger) is by the 2 CAN lines and an asynchronous serial line.

Inside the unit there is a high performance RISC microcontroller with a logging capability of 16 Mbyte and an FPGA for diagnostic purposes.

SRA-EDL16 provides analogue inputs for single-ended, temperature and knock-sensor as well as an interface for a switching lambda sensor. The unit also provides an H-Bridge output stage for use with suitable "Drive by Wire" actuators. 6 configurable speed sensor inputs (inductive or Hall) provide full flexibility of configuration for engine angle detection as well as other frequency inputs such as wheel or shaft speed.

SRA-EDL16 is supplied with the mating connector (loom side).

## Main Features

- 8 Single-ended
- 6 Pick-ups or Hall effect
- 6 Inductive or logic command ignition drivers (SW option)
- 8 On/Off injector drivers
- 1 H-Bridge: DC-Motor driver for "Drive by Wire" control
- 4 PWM (Current controlled PWM)
- 1 On/Off or Linear Lambda sensor
- 2 Knock input for detonation control accelerometers
- 16 Mb internal data logger
- Up to 128 logged channels
- Up to 10 Kb/s logging rate
- Sampling rates up to 200 Hz
- 2 CAN communication buses
- 1 Ethernet line



## Benefits

- No need of external data logger
- Fast data download time with Ethernet link
- The logic command coils option is available on request
- SW selectable NTC/PT1000 temperature sensors
- Flexible setup by means of a high number of Inputs/Outputs
- Floating point data management
- Direct management of Marelli dashboard display
- Pick-up inputs for wheel speed and distance measurement
- Requires WinTAX4 analysis software
- Requires SYSMA logging setup tool
- Easy to install

## Typical Applications

One make race series  
Cars  
Bikes

## ENGINE CONTROL UNITS

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Inputs/Outputs

### Technical Characteristics

#### Inputs

Analogue Single-ended	8
On/Off or Linear Lambda sensor	1
Knock sensor (multiplexed)	2
K-type thermocouple	2
NTC/PT1000 temperature sensor (selectable)	4
NTC internal temperature sensor	1
V battery injector	1
VR Pick-ups or Hall effect	6
On/Off digital	6
Lap Trigger	1
"Code Load" enable pin	1

#### Outputs

On/Off injector drivers	8
Inductive or logic command ignition drivers (SW option)	6
H-Bridges	1
Lambda heater drivers	1
PWM	4
Low-side On/Off	2
Voltage references	2

#### Communications

CAN line (1 Mbit/s (*))	2
Ethernet line (100 Mbit/s)	1
Serial current loop	1

(\* ) Configurable on request

#### Logic Core

Microcontroller (80 MIPS RISC)	1
FPGA (50k gates)	1
Flash E2PROM (microcontroller)	1 Mb
RAM memory (microcontroller)	48 Kb
RAM memory	512 Kb
E2PROM parallel	64 Kb
E2PROM serial	4 Kb
Time keeper	1

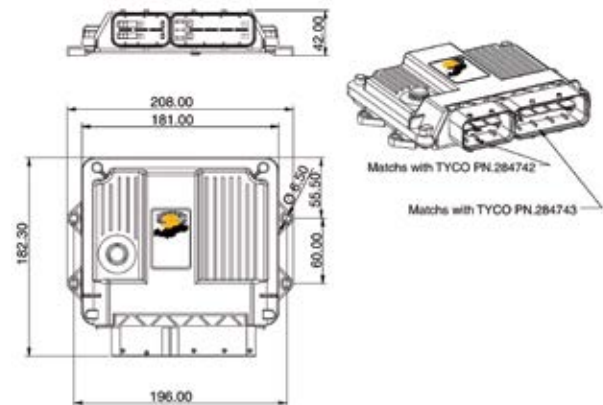
#### Logging

Flash disk memory	16 Mb
Logged channels	up to 128
Logging rate	up to 10 Kb/s
Sampling rate	up to 200 Hz

#### Other Characteristics

Power supply	6 to 16 V
Operating temperature range (internal)	- 20 to 85 °C
Protection class	IP 65
Dimensions with connectors	208 x 182.30 x 42 mm
Weight (approx.)	960 g

### Dimensions



Dimensions in millimetres

### Application Schematics

