Professional Electronics
for Automotive and Motorsport

6 Repton Close | Basildon
Essex | SS13 1LE | United Kingdom
+44 (0) 1268 904124
info@liferacing.com
www.liferacing.com

GDI Driver 8
Datasheet

Life Racing's Direct Injector Driver 8 is a compact unit capable of driving up to eight fuel injectors with the required high voltage and PWM for proper operation. A maximum boost voltage of 80V can be user configured to ensure reliable injector behaviour.

Alternatively, the GDI Driver 8 can be configured to drive up to two GDI pumps along with six direct injectors, ideal for V6 applications. The unit can also be configured to receive two SENT sensor signals and re-transmit the decoded values via the onboard CAN bus.

The GDI Driver 8 can be configured to operate in open-loop or closed-loop current control modes. Depending on the selected mode of operation, the user can define the boost voltage, boost time, hold time, PWM duty, boost current, hold current as well as SENT decode and CAN configuration options.

Outputs:

- 8 Direct Injection Drivers (8 DI injectors OR 6 DI injectors with 2x pump control)
- CAN bus datastream (Hardware statistics and decoded SENT voltages) – 1Mbps default

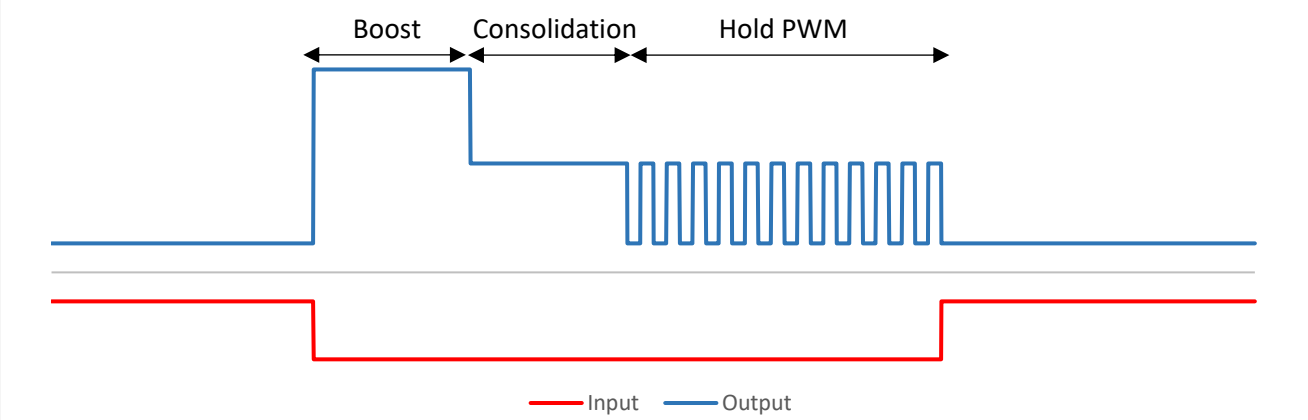
Inputs:

- 8 Injection Pulses (8 DI injectors OR 6 DI injectors with 2x pump control)
- 2 SENT inputs (Dual voltage, Single, Single secure)
- External power CONFIG pins (Optional when not using SENT)

Power Supply:

- 6V to 32V input range with reverse polarity protection
- High Voltage generated internally
- Adjustable output drive voltage and PWM

Output Profile:



The majority of all modern solenoid gasoline injectors will work with open-loop power level 2 (standard). The consolidation (stage) and open-loop hold duty can be automatically compensated against supply voltage. The four preset CONF power levels are as follows:

CONF Power Level at 63V boost (recommended)	Low	Standard	High	Very High
Boost time (Boost V)	300µs	400µs	425µs	425µs
Consolidation/stage time (Supply V)	300µs	400µs	400µs	400µs
Hold PWM duty	30%	40%	45%	50%

Physical:

- Deutsch Autosport connectors
- CNC machined, O ring sealed, IP68 black anodised aluminium case
- Maximum dimensions including connectors are 131x111x40mm
- Internal operating temperature -25 to 125°C (user monitorable via CAN stream)
- Total mass ~450g

Ordering Information:

Description	Part number
GDI Driver 8 12V	ANC-A07

Wiring Information:

Connector 1

Mating connector: AS6-16-26SN

Pin	Gauge	Signal Name	Signal Notes
A	20-24AWG	Battery supply	Positive battery supply
B	20-24AWG	Battery supply	Positive battery supply
C	20-24AWG	Battery supply	Positive battery supply
D	20-24AWG	GDI INJ 01 -	Direct injector negative
E	20-24AWG	GDI INJ 01 +	Direct injector positive
F	20-24AWG	GDI INJ 02 -	Direct injector negative
G	20-24AWG	GDI INJ 02 +	Direct injector positive
H	20-24AWG	GDI INJ 03 -	Direct injector negative
J	20-24AWG	GDI INJ 03 +	Direct injector positive
K	20-24AWG	GDI INJ 04 -	Direct injector negative
L	20-24AWG	GDI INJ 04 +	Direct injector positive
M	20-24AWG	GDI INJ 05 -	Direct injector negative
N	20-24AWG	GDI INJ 05 +	Direct injector positive
P	20-24AWG	GDI INJ 06 -	Direct injector negative
R	20-24AWG	GDI INJ 06 +	Direct injector positive
S	20-24AWG	GDI INJ 07 - / GDI PUMP 1 -	Direct injector negative / GDI pump negative connection
T	20-24AWG	GDI INJ 07 + / GDI PUMP 1 +	Direct injector positive / GDI pump positive connection
U	20-24AWG	GDI INJ 08 - / GDI PUMP 2 -	Direct injector negative / GDI pump negative connection
V	20-24AWG	GDI INJ 08 + / GDI PUMP 2 +	Direct injector positive / GDI pump positive connection
W	20-24AWG	DO NOT CONNECT	LR Internal use
X	20-24AWG	DO NOT CONNECT	LR Internal use
Y	20-24AWG	DO NOT CONNECT	LR Internal use
Z	20-24AWG	DO NOT CONNECT	LR Internal use
A	20-24AWG	Power ground	Negative battery supply
B	20-24AWG	Power ground	Negative battery supply
C	20-24AWG	Power ground	Negative battery supply

Connector 2

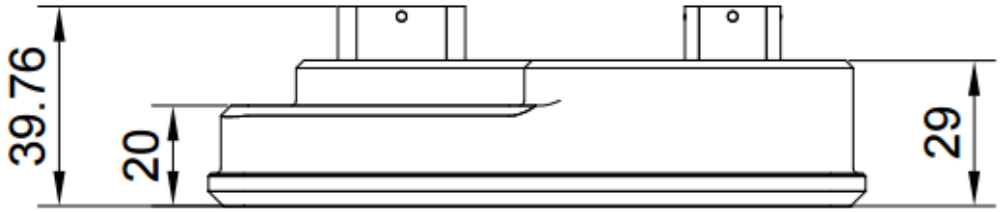
Mating connector: AS6-12-35SN

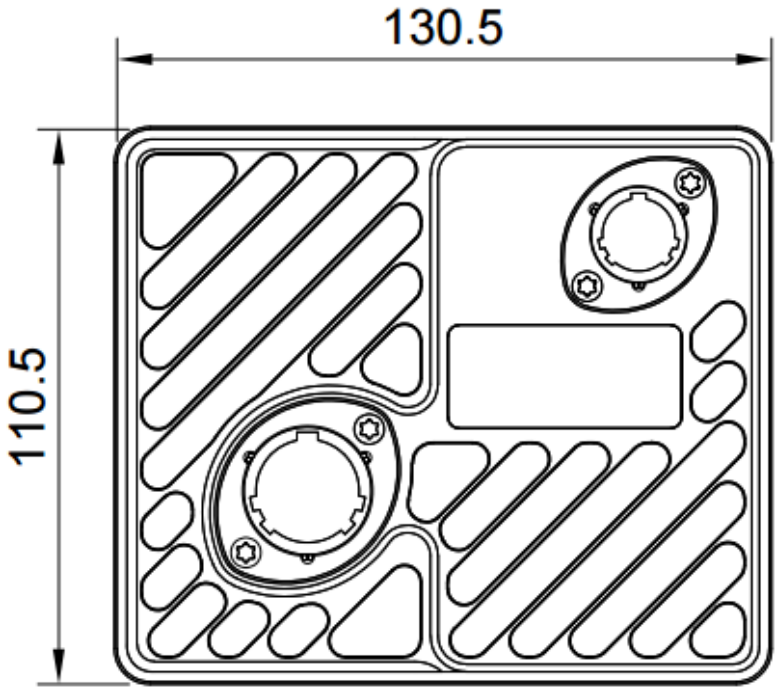
Pin	Gauge	Signal Name	Signal Notes
1	22-26AWG	Fuel injection pulse 01	Signal from host ECU
2	22-26AWG	Fuel injection pulse 02	Signal from host ECU
3	22-26AWG	Fuel injection pulse 03	Signal from host ECU
4	22-26AWG	Fuel injection pulse 04	Signal from host ECU
5	22-26AWG	Fuel injection pulse 05	Signal from host ECU
6	22-26AWG	Fuel injection pulse 06	Signal from host ECU
7	22-26AWG	Fuel injection pulse 07	Signal from host ECU
8	22-26AWG	Fuel injection pulse 08	Signal from host ECU
9	22-26AWG	CONFIG 1 / SENT 1	Configuration pin 1 / SENT signal 1
10	22-26AWG	CONFIG 2 / SENT 2	Configuration pin 2 / SENT signal 2
11	22-26AWG	CAN L	CAN bus 1 - LOW
12	22-26AWG	CAN H	CAN bus 1 - HIGH
13	22-26AWG	RS232 RX	RS232 RX
14	22-26AWG	RS232 TX	RS232 TX
15	22-26AWG	GDI Reset	GDI Reset – Switch to GND
16	22-26AWG	GDI fault LED	GDI fault LED
17	22-26AWG	DO NOT CONNECT	LR Internal use
18	22-26AWG	DO NOT CONNECT	LR Internal use
19	22-26AWG	SENT 5V supply	SENT 5V supply
20	22-26AWG	SENT/CONF GND	SENT/CONF GND
21	22-26AWG	Battery Supply	Positive battery supply – Required for bench programming or connection
22	22-26AWG	Power ground	Negative battery supply – Required for bench programming or connection

CONF Power Level settings:

- Low power: 1 Open, 2 Open
- Standard power: 1 Open, 2 Grounded
- High power: 1 Grounded, 2 Open
- Very high power: 1 Grounded, 2 Grounded

Dimensions:





Warranty and Servicing:

- This equipment comes with a one year warranty against manufacturing defects and failures however misuse or damage will not be covered under warranty.