Note: Pin1 CTRL and Pin3 GND are shortage which will pull wire cable in IMRC unit.
Controling program please view my GitHub project of details.

P1
OLED 9.6"/SPI (option)
OLED I2C/SPI

U1 7805(SOT-89) +5V

VCC+12V(BAT)
.75mm

VCC+12V(IGN)
K1 RELAY 12V 20A
F1 5A fuse

U4 IMRC Unit plug
- pin1 CTRL
- pin2 VPWR
- pin3 VGND
- 4
- pin5 Monitor
- pin6 SGNRTN

D1 1N4007

U3 Arduino-relay 5V
N.O. / comm / N.C. / In / Gnd / Vcc

M1 ARDUINO-NANO-3.0

U7 IMRC cable conncetor
- pin1 CTRL
- pin2 VPWR
- pin3 VGND
- 4
- pin5 Monitor
- pin6 SGNRTN

CoilVCC+12V(IGN)
Ford ST170
L4 Engine 2.0
T1 Ignition Coil Unit P136-1 / P136-2
T2 Ignition Coil Unit P136-3 / P136-4

R1 5k1 **R2** 20k **R3** 5k1

*Way 1
*Way 2

P59(PCM-signal)
P58(PCM-signal)

U2 Hall Sensor at spark plug line
P3 P2 P1 / A0 / G / + / D0

U5 IMRC cable connector
- pin1 CTRL (active low)
- pin2 VPWR
- pin3 VGND
- 4
- pin5 Monitor
- pin6 SGNRTN

ST170 IMRC Delete function to bypass PCM check

U6 Relay 5P DC12V
COM / NC / NO / 85 / 86 / 87a / 87
R4 75 ohm

(Connector sideview)
3	2	1
Vgnd.	Vpwr.	Ctrl.
6	5	4
SgnR.	Moni.	n/a.

(IMRC unit sideview)
1	2	3
Ctrl.	Vpwr.	Vgnd
4	5	6
n/a.	Moni.	SgnR.

Way 1 for resistor singal input
Way 2 for hall sensor singal input
Select each one for coil RPM detection

TITLE: ST170 IMRC external control via Arduino
REV: 2.0
Company: https://github.com/jir8taiwan
Sheet: 1/1
Date: 2025-11-16
Drawn By: