tc4-controller-02 Schematic

RESET
(deleted)

TC inputs
- CH1+ TC1-2 2
- CH1- 1
- CH2+ TC2-2 2
- CH2- 1
- CH3+ TC3-2 2
- CH3- 1
- CH4+ TC4-2 2
- CH4- 1

mounting

Ambient temp sensor IC
+5V
C3 0.1uF
U1
MCP9800
- 6 SCL
- 7 WP
- VDD SDA → I2C_DATA
- VSS
- ALERT SCL → I2C_CLOCK
GND

EEPROM
+5V
0.1uF C4
GND
IC1 24LC512
EEPROM Array
- 6 SCL / I2C_CLOCK
- 7 WP
- 8 VCC
- 3 A2
- 2 A1
- 1 A0
- 5 SDA / I2C_DATA
- 4 GND / I2C_DATA
GND
24LC512-I/SM

J3_DIGITAL
8 7 6 5 4 3 2 1
AREF
GND
- DIO8
- DIO9
- DIO10
- DIO11
- DIO12
- DIO13

J2_ANALOG
1 2 3 4 5 6
- AIN0
- AIN1
- AIN2
- AIN3
- I2C_CLOCK
- I2C_DATA

ADC connections
+5V
+ C1 10uF   C2 0.1uF
GND
ADC1 MCP3424SL
- CH3+ CH3+
- CH3- CH3-
- CH4+ CH4+
- CH4- CH4-
- CH1+ Ch1+
- CH1- CH1-
- CH2+ CH2+
- CH2- CH2-
MUX — PGA — Delta-Sigma ADC — I2C
VDD
Vref 2.048V
OSC
VSS
GND
+5V
R1 4.7K   R2 4.7K
SCL → I2C_CLOCK
SDA → I2C_DATA
ADR1
ADR0
GND

J1_DIGITAL
8 7 6 5 4 3 2 1
- RX
- TX
- DIO2
- DIO3
- DIO4
- DIO5
- DIO6
- DIO7

POWER
+5V
1 2 3 4 5 6
- VIN
- GND
- 3V3
- RESET

LCD
- GND 1
- +5V 2
- DIO2 3
- DIO4 4
- DIO7 5
- DIO8 6
- DIO12 7
- DIO13 8

JeePort header
JEE3
- VIN 1
- DIO6 2
- GND 3
- +5V 4
- AIN2 5
- DIO3 6

SSR driver outputs
D1 S1AB-13-F
VIN
Max 200mA
OT12+ 2
OT12+ 1
OT2-
OT2
Max 200mA
OT12+ 2
OT1- 1
OT1
DIO10 R4 2K
Q2 2N3904
DIO9 R3 2K
Q1 2N3904
GND
GND

PWM output (or INT1)
DIO3
2
1
I/O3
GND

Analog inputs
+5V
ANLG
- 1
- AIN0 2
- AIN1 3
- 4
GND

Jumpers to ground TC's (if needed)
JP10 JP20 JP30 JP40
1 2   1 2   1 2   1 2
CH1- CH2- CH3- CH4-
GND   GND   GND   GND

TITLE: tc4-controller-02
Document Number:
REV:
Date: 7/21/2010 11:37:55 PM
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