"""

- Action Commands

CmdTyp | Cmd | P1 | P1 range | P2 | P2 Range | Description

-------|-----|---------|----------|----------|-----------|-------------------------------------------

~ | A | uint | 0 to 255 | n/a | n/a | Store Board ID

~ | B | Sens# | 1 to 12 | Beta | 0 to +inf | Store thermistor BETA value

~ | C | n/a | n/a | n/a | n/a | Clear and restore

~ | D | LOOP# | 1 to 2 | Value | 0 to 100 | PID Derivative D factor

~ | E | n/A | n/a | n/A | n/a | Reset CPU

~ | F | ID | 1 to 2 | state | 0 t0 1 | Switched High Power output

~ | G | Sens# | 1 to 12 | gain | infinite | Store gain value

~ | I | LOOP# | 1 to 2 | Value | 0 to 100 | PID Integral I factor

~ | J | LOOP# | 1 to 2 | Value | 1 to 12 | Loop control sensor#

~ | L | HtrEna | 1 to 2 | /Dis Ena | 0,1,2 | 0=Disabled, 1=Fixed Percent, 2=PID Control

~ | M | Samples | 1 to 51 | n/a | n/a | Store #of Over samples to use

~ | O | Sens# | 1 to 12 | offset | infinite | Store Resistance offset in ohms

~ | P | LOOP# | 1 to 2 | Value | 0 to 100 | PID Proportional P factor

~ | Q | A/D # | 1 to 12 | Fltr Val | 0 to 4 | ADC Filter Setting

~ | R | Sens# | 1 to 12 | R@25C | infinite | Store thermistor Resistance @25C

~ | S | Sens# | 1 to 12 | SnsType | infinite | Store Sensor Type (1=PT100 2=PT1000 3=NCT\_THERMISTOR)

~ | T | Sens# | 1 to 12 | n/a | n/a | Store Transmit Temp Data setting (0=FALSE;1=TRUE)

~ | U | Sens#'s | 12 bits | Units | 0,1,2 | Store Temperature Units (0=K;1=C;2=F)

~ | V | DAC# | 1 to 2 | Value | 0 to .1 | Set Heater Current (A)

~ | W | LOOP# | 1 to 2 | Value | -460->500 | Set LOOP SetPoint

~ | X | A/D # | 1 to 12 | Current | 0 to 7 | Store Excit uA (0=NONE,1=50,2=100,3=250,4=500,5=750, 6,7=1000)

~ | Z | DAC# | 1 to 2 | counts | 0 to 2046 | set DAC output

~ | a | Const# | 0 to 5 | Value | +/- inf | Store RTD polynomial K5X^5+K4X^4+K3X^3+K2X^2+K1X+K0

~ | g | Sens# | 1 to 12 | AD gain | 1,2,4,8...| Store AD Amplifier gain value

~ | f | Sens# | 1 to 12 | Ref Volt | 1.0 to 5.0| Store AD Reference voltage used for each channel

~ | j | voltage | 0 to 1.25| n/a | n/a | Store Low Voltage Threshold

~ | c | A/D # | 1 to 6 | n/a | n/a | Initialize the ADC

- Query Commands

CmdType| Cmd | P1 | P1 range | Returns | Range | Description

-------|-----|---------|----------|-----------|-----------|-------------------------------------------

? | A | uint | 0 to 255 | Board ID | n/a | Read Board ID

? | B | Sens# | 1 to 12 | TBeta | 0 to +inf | Read thermistor BETA value

? | C | Sens# | 1 to 12 | Cal | n/a | Read temp cal params

? | D | LOOP# | 1 to 2 | D Value | 0 to 100 | Read PID Derivative D factor

? | F | ID | 1 to 2 | Pwr Stat | 0 to 1 | Read Switched High Power output Status

? | G | Sens# | 1 to 12 | gain | 0 to +inf | Read gain value

? | H | n/A | n/a | Humidity | 0 to 100% | Read Humidity Sensor (Humidity : Temp)

? | I | LOOP# | 1 to 2 | I Value | 0 to 100 | Read PID Integral I factor

? | J | LOOP# | 1 to 2 | Loop Sns# | 1 to 12 | Read Loop control sensor#

? | K | Sen# | 1 to 12 | Temp | +/-inf | Read sensor temperature

? | L | HtrEna | 1 to 2 | Htr Stat | 0,1,2 | Read Htr Amp status(0=Disabled,1=Fixed%, 2=PID ctrl)

? | M | Samples | 1 to 51 | OverSmpl# | 0 to 100 | Read #of Over samples to use

? | N | SW Ref | n/a | Rev | n/a | Read the software revision

? | O | Sens# | 1 to 12 | T offset | +/-inf | Read Resistance offset in ohms

? | P | LOOP# | 1 to 2 | P Value | 0 to 100 | Read PID Proportional P factor

? | Q | A/D # | 1 to 12 | Fltr Val | 0 to 4 | Read Filter Setting

? | S | Sens# | 1 to 12 | SnsType | 0,1,2,3 | Read SensorType (1=PT100 2=PT1000 3=NCT\_THERMISTOR)

? | T | Sens# | 1 to 12 | Xmit? | 0 to 1 | Read Transmit Temp Data setting (0=FALSE;1=TRUE)

? | U | Sens# | 1 to 12 | Units | 0,1,2 | Read Temperature Units(0=K;1=C;2=F)

? | V | DAC# | 1 to 2 | % | 0 to .1 | Read Heater Current (A)

? | W | LOOP# | 1 to 2 | Value | -460->500 | Read LOOP SetPoint

? | X | A/D # | 1 to 12 | Current | 0 to 7 | Read Excit uA(0=NONE, 1=50,2=100,3=250,4=500,5=750 6,7=1000)

? | a | Const# | 0 to 5 | Constants | +/- inf | Read RTD polynomial K5X^5+K4X^4+K3X^3+K2X^2+K1X+K0

? | r | Sens# | 1 to 12 | R sensor | 0 to inf | Read RTD Resistance at temperature

? | g | Sens# | 1 to 12 | AD gain | 1,2,4,8...| Read AD Amplifier gain value

? | v | Sens# | 1 to 12 | V sensor | 0 to inf | Read RTD Voltage at temperature

? | f | Sens# | 1 to 12 | Ref Volt | 1.0 to 5.0| Read AD Reference voltage used for selected channel

? | t | n/a | n/a | temps | +/- inf | Read temperatures from all channels

? | i | Heater# | 1 to 2 | Amps | 0 to .3 | Read Heater Current

? | j | voltage | 0 to 1.25| n/a | n/a | Read Low Voltage Threshold

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