

THC API - Control THC from PLC procedure

Torch Height Control normally controlled from PLC procedure. THC should be switched ON just after Pierce procedure finished and should be switched OFF before switching off cutting process. In some cases switching THC ON/OFF can be made from special M-codes like M14, M15, M50, M51.

THC API offers simple access to THC Control from PLC procedure.

We have two API versions to access to THC.

API #1

Several Global Variables registers are mapped to get access to THC features.

Variable Name	Value	Comment
THC #0 Registers		
GVAR_THC0_CONTROL	7570	THC #0 Control register. Writing 0 to this register will turn THC off. Writing 1 - Immediate (No delay) start THC with pre-defined Reference Value Writing 2 - Start THC with Delay (THC on delay parameter in THC settings) and pre-defined Reference Value Writing 3 - Update Reference Value (Measure ADC channel) and Immediate Start THC with new Reference Writing 4 - After Delay update Reference Value (Measure ADC channel) and Start THC with new Reference
GVAR_THC0_INPUT	7571	Writing to this register will change ADC channel used for THC control. ADC numeration starts from 0x10 0x10 - ADC #0 0x11 - ADC #1 0x12 - ADC #2 0x13 - ADC #3 0x14 - ADC #4 0x15 - ADC #5 0x16 - ADC #6 0x17 - ADC #7
GVAR_THC0_VREF	7572	Writing to this register will change Reference Value for THC #0. Reading register will return THC #0 current Reference Value
GVAR_THC0_OFFSETZ	7573	Reading this register will return current THC #0 Speed. Register value is used to display current speed of THC #0 system
GVAR_THC0_ENABLED	7574	THC #0 Enable Register. Writing 0 will Disable THC #0. Writing to THC #0 Control register will be ignored. Writing 1 - will Enable THC #0
THC #1 Registers		
GVAR_THC1_CONTROL	7575	See THC #0 above
GVAR_THC1_INPUT	7576	See THC #0 above
GVAR_THC1_VREF	7577	See THC #0 above

Variable Name	Value	Comment
THC #0 Registers		
GVAR_THC1_OFFSETZ	7578	See THC #0 above
GVAR_THC1_ENABLED	7579	See THC #0 above
THC #2 Registers		
GVAR_THC2_CONTROL	7580	See THC #0 above
GVAR_THC2_INPUT	7581	See THC #0 above
GVAR_THC2_VREF	7582	See THC #0 above
GVAR_THC2_OFFSETZ	7583	See THC #0 above
GVAR_THC2_ENABLED	7584	See THC #0 above
THC #3 Registers		
GVAR_THC3_CONTROL	7585	See THC #0 above
GVAR_THC3_INPUT	7586	See THC #0 above
GVAR_THC3_VREF	7587	See THC #0 above
GVAR_THC3_OFFSETZ	7588	See THC #0 above
GVAR_THC3_ENABLED	7589	See THC #0 above

Examples. Switch On THC#0 and THC#1 in **M03** Oxyfuel Gas Cutting ON procedure (2x gas cutting heads configuration). Pre-defined Reference Value is used, THC will be started after delay, defined in Cfg→Technology→THC configuration dialog, **THC delay, s** item.

```
if (thc_enabled!=0)
{
    gvarset(7570,1); //THC #0 ON
    gvarset(7575,1); //THC #1 ON
};
```

Switch Off THC#0 and THC#1 in **M05** Oxyfuel Gas Cutting OFF procedure (2x gas cutting heads configuration)

```
gvarset(7570,0); //THC #0 ON
gvarset(7575,0); //THC #1 ON
```

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