Disabling the Arc Transfer (Arc ON) signal

1/3



It is highly recommended to use Arc ON signal from Plasma power source and connect it to ET7 controller Arc ON input to get correct feedback about current plasma state. Cutting will be started just after Arc Plasma ready and stopped in case of plasma fail.

However Arc ON signal can be disabled in case you don't want to use it, with 3 simple methods how to do it. You can use any of the three methods described below:

- (Method 1) Just short Arc ON input on ET7 control board. To do it you need
 - 1. Short J1 to power up binary inputs IN0...IN3
 - 2. Connect IN pin for the Arc Sensor to GND (any of GND pins can be used, please see photo as an example)
 - 1. The IN pin is assigned in the pins.h file (Settings > Config > PLC > Hardware PLC > pins.h) under #define INPUT_ARC
 - 3. Check on-board LED correspondent to the correct IN pin is ON



4. check if software LED on Diagnose widget is activated

Binary Inp	uts				ADC inputs		Encoders		Machine H	oming		
IN00 🥯	IN16 🥥	IN32 🥯	IN48 🔵) IN64 🥮	ADC 0		Enc Slow #0			VI 🥖	160.067	
IN01 🥥	IN17 🧼	IN33 🥥	IN49 🔵) IN65 🥌	ADC 1		Enc Slow #1				109.907	
IN02 🔵	IN18 🔵	IN34 🥮	IN50 🔵) IN66 🔵	ADC 2		Enc Slow #2					
IN03 🥥	IN19 🔵	IN35 🥌	IN51) IN67 🥌	ADC 3		Enc Slow #3			¥+ \	193.808	
IN04 🥥	IN20 🥌	IN36 🔵	IN52 🔵) IN68 🔵	ADC 4		Enc #0					
IN05 🔵	IN21 🥮	IN37 🔵	IN53 🔵) IN69 🔵	ADC 5		Enc #1				100.000	
IN06 🥮	IN22 🥮	IN38 🔵	IN54 🥮) IN70 🔵	ADC 6		Enc #2					
IN07 🥏	IN23 🥏	IN39 🤤	IN55	IN71	ADC 7		Enc #3			A+ <	0.000	
IN08	IN24	IN40	IN56 🔵	IN72								
IN09 🤍	IN25 🥌	IN41	IN57 🔵	IN73 💭	PWM output	s				R+ (0 000	
IN10	IN26	IN42	IN58 🔵	IN 74 🥃							0	
IN11	IN27	IN43	IN59 🔵	IN75	PAAM T		· · /				0 000	
		IN44 🤤			DWM 2						0.000	
	IN29	11140			FVVIM 2		· · · /					
		11140			DWM 3							
	INDI	11147	11000	/ IN/9	1 40101 5		· · · · ·		Gantry Alig	ament Corre	tion	
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Pinany Out	nute				PWM 5		0		(#97)		0.00	
									Assign too	l number		
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		븕 문							Tool offset 2	<		
01 🔬 0		25 式	3 33 代) 41 ()	PWM 7				Tool length	'Z)	0.00	
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02 (0 🔿 18 🤆	26 🕂	3 34 🕂		PWM 8							
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			$\overline{\mathbf{A}}$		DAC 1		0.00 V					T17 T18
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05 1	3 😽 21 📩	29 📩	37 📩	45 式	Coordinates	svste	m					
					o							
06 🔬 1	1 22	5 30 代	38 代	46 🔬 🗌	Current N	um						
07 1	5 🔣 23 🧲	X 31 X	39 代	47 (Changes stored to	STOP
<u>T</u>		<u> </u>									flash memory	STUP

• (Method 2) Invert Binary input #0 in **Common Hardware Settings** dialog, then check it on Diagnose widget or in the main screen

SYS PLC Report	Info Support Cutch	than Config
CNC Settings Axes/Motors > Inputs/Outputs/Sensors Network Motion	Output bits inversion	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 51-3 10 1<
✓ PLC Hardware PLC Hardware PLC Templates	Input bits inversion	6 - 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Hardware PLC: XML configs PLC Configuration Software PLC G-codes settings		22 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 24 6 5 6 6 7 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7
DXF Import settings Macro List	Input pins filter, [ms]	0.1
 Macro Wizard Probing Wizard 	Keypad filter (ET7), [ms]	0 1 2 3 4 5 6 7 5 ET1 0.32 0.64 0.96 1.28 1.60 1.92 2.24 5.0 us
▶ Preferences ▼ Screen Colors Visualisation Colors	ADC inputs inversion	0 1 2 3 4 5 6 7 ET3 0.16 0.32 0.48 0.64 0.8 us 0.96 1.12 2.5 us ET6, ET7 0.13 0.25 0.50 1 0.8 2.0 us 4.0 us 8.0 us 12 us ET10 0.13 0.25 0.50 1 0. us 2.0 us 4.0 us 8.0 us 10 us
Popup Messages 3D Visualisation Work Offsets	Pulse width Pulse format	5 V 5 V 0 V PULSE/DII -
Parking Coordinates Technology	UART2 setup	Modbus #2
Camera 5 axes RTCP	Command Buffer Size	8k (OLD firmware)
▶ Panel/Pendant ▼ Hardware	ET6-ET10 Overspeed bugfix	
Common Hardware Settings Encoders Analogue Closed Loop Pulse-Dir Closed Loop ET2/ET4 ET15 Host Modbus > Advanced		



• (Method 3) Remove the following pieces of code for the M71.plc source, then save, rebuild and send the binary files (press 3 buttons on the right of **PLC Builder** screen.

```
timer=5000; //wait up to 5secs till plasma arc ready
do{
   timer--;
   a=portget(INPUT_ARC);
   if (a!=0) { timer=0; };
}while(timer>0); //pause
//doublecheck arc sensor
a=portget(INPUT_ARC);
if (a==0)
{
   message=PLCCMD_TRIGGER2_ON;
   texit=timer+10;do{timer++;}while(timer<texit);
   exit(plc_exit_plasma_fail);
};</pre>
```

and

message=PLCCMD_TRIGGER1_ON; timer=2;do{timer--;}while(timer>0);

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http://docs.pv-automation.com/examples/plasma-x1366p/disable-arc-on

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