## MACH3 integration:

- The sensor has to be connected to a digital input of your motion board. Check a user guide for your motion board to select correct input and wiring.
- If you use Z-axis tool height measurement device or other measurement device using G31, sensor has to share this input, because both share the same measurement Gcode. Check a documentation for your probe and check, if can be connected in parallel.
- As soon as sensor is connected to a motion board, set the input signal in MACH3/Config/Ports and pins menu:

Engine Configuration Ports & Pins								
P	ort Setup and Axis Selection   Motor Outputs Input Signals   Output Signals   Encoder/MPG's   Spindle Setup   Mill Op							tions
	(c) 1	E 11.1	D 14	D: 11	A	<b>5</b> 1 4 1	11.12	
	Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey	<u>^</u>
	Input #3	×	0	0	X	X	0	
	Input #4	X	0	0	X	X	0	
	Probe	4	1	10	4	<b>X</b>	0	
	Index		0	U		64	U	
	Limit Ovrd	X	0	0	X	×	0	
	EStop	4	0	0	X	X	0	
	THC On	×	0	0	X	X	0	
	THC Up	X	0	0	X	X	0	
	THC Down	X	0	0	X	X	0	v
	Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be used on this screen							
Tinis to to and to are inputs, only these opint fulliblis flag be used of this screen								
	Automated Setup of Inputs							3
						ОК	Zrušit	Použ í <u>t</u>

Setup your "port number", "pin number" and "active low" option according your motion board and wiring.

Check the sensor function by MACH3/diagnostic page:

When sensor is ready (not triggered) "Digitize" input has to be inactive:



## When sensor is triggered, "Digitize" input has to be active: Input Signals current State EJogX++ EJogY+ EJogX--EJogY-Input 1 M1++Limit Input 2 M2 ++Limit M3++Limit Input 3 M4++Limit M5++Limit Digitize M6++Limit LimitOV Tarch On Emergency

This input is used by g-code G31. Please use documentation of your MACH3 version for further details. In general, G31 starts function, which moves a spindle in set direction, until "Digitize" input is activated. Current position at the touch point can be read.

Example of measurement cycle macro:

```
Code "G91 G31 X+10 F200"
sleep (100)
While (IsMoving())
sleep (100)
Wend
SetOEMDro(800, -1.5)
```

G91 = incremental (relative) positioning

G31 X+10 F200 = probing function, move in X axe +10mm max with feed rate 200unit/s. This function ends as soon as Digitize input is activated or after set distance (X+10mm in this example)

sleep (100), While (IsMoving()), sleep (100) , Wend = waiting cycle, finishes as soon as machine is stopped, means G31 ends.

SetOEMDro(800, -1.5) = set X DRO to value -1.5 (half of tip dia). Value can be different.