```
# Generated by Talla83 26.10.2018
# http://talla83.de/linuxcnc/config.htm
#

# loadrt trivkins
# loadrt [EMCMOT]EMCMOT servo_period_nsec=[EMCMOT]SERVO_PERIOD num_joints=[TRAJ]AXES
num_dio=32
# loadrt hostmot2
# loadrt hm2_pci config=" num_encoders=1 num_pwmgens=0 num_stepgens=1"
# setp   hm2_5i25.0.watchdog.timeout_ns 5000000


loadrt trivkins
loadrt [EMCMOT]EMCMOT servo_period_nsec=[EMCMOT]SERVO_PERIOD num_joints=[TRAJ]AXES
num_dio=32
loadrt hostmot2
loadrt hm2_eth board_ip="192.168.1.121" config=" num_encoders=1 num_pwmgens=0 num_stepgens=1
sserial_port_0=20xxxx"  # alt num_stepgens = 5
setp    hm2_7i76e.0.watchdog.timeout_ns 5000000
# loadrt pid names=pid.x,pid.y,pid.z,pid.s


# loadrt motmod [num_dio=32]     servo-thread
loadrt pid names=pid.x
addf pid.x.do-pid-calcs       servo-thread

addf hm2_7i76e.0.read          servo-thread
addf motion-command-handler    servo-thread
addf motion-controller         servo-thread
addf hm2_7i76e.0.write         servo-thread




########################

# external output signals

# --- DOUT-08 --- TB5 PIN 17

  setp hm2_7i76e.0.7i76.0.0.output-08 true

  net dout-08 hm2_7i76e.0.7i76.0.0.output-08
  net dout-08 motion.digital-out-08

# --- DOUT-07 ---TB6 PIN 24

  setp hm2_7i76e.0.7i76.0.0.output-07 true

  net dout-07 hm2_7i76e.0.7i76.0.0.output-07
  net dout-07 motion.digital-out-07

# --- DOUT-06 ---TB6 PIN 23

  setp hm2_7i76e.0.7i76.0.0.output-06 true

  net dout-06 hm2_7i76e.0.7i76.0.0.output-06
  net dout-06 motion.digital-out-06


# --- DOUT-05 ---TB6 PIN 22

  setp hm2_7i76e.0.7i76.0.0.output-05 true
```

```
  net dout-05 hm2_7i76e.0.7i76.0.0.output-05
  net dout-05 motion.digital-out-05

# --- DOUT-04 ---TB6 PIN 21

  setp hm2_7i76e.0.7i76.0.0.output-04 true

  net dout-04 hm2_7i76e.0.7i76.0.0.output-04
  net dout-04 motion.digital-out-04

# --- DOUT-03 ---TB6 PIN 20

  setp hm2_7i76e.0.7i76.0.0.output-03 true

  net dout-03 hm2_7i76e.0.7i76.0.0.output-03
  net dout-03 motion.digital-out-03

# --- DOUT-02 ---TB6 PIN 19

  setp hm2_7i76e.0.7i76.0.0.output-02 true

  net dout-02 hm2_7i76e.0.7i76.0.0.output-02
  net dout-02 motion.digital-out-02

# --- DOUT-01 ---TB6 PIN 18

  setp hm2_7i76e.0.7i76.0.0.output-01 true

  net dout-01 hm2_7i76e.0.7i76.0.0.output-01
  net dout-01 motion.digital-out-01

# --- DOUT-00 ---TB6 PIN 17

  setp hm2_7i76e.0.7i76.0.0.output-00 true

  net dout-00 hm2_7i76e.0.7i76.0.0.output-00
  net dout-00 motion.digital-out-00

# external input signals


# --- MIN-X --- TB5 PIN5

 net x-pos-limit <=  hm2_7i76e.0.7i76.0.0.input-20 axis.0.pos-lim-sw-in                    # works



# --- DIN-21 ---TB5 PIN6

net din-21  <=  hm2_7i76e.0.gpio.021.in      # works fine
net din-21  <=     motion.digital-in-21

# --- DIN-01 ---TB5 PIN6
# net din-01     <=  hm2_7i76e.0.gpio.021.in  # old not working

# --- DIN-02 ---TB5 PIN7
# net din-02     <=  hm2_7i76e.0.gpio.022.in    # old not working

# --- DIN-03 ---TB5 PIN8
# net din-03     <=  hm2_7i76e.0.gpio.023.in  # old not working
```

```
#########################

# external output signals DOUT 8-15 TB5 zweiter Stecker (24 pol. von hinten)



# --- DOUT-08 --- auf  TB5 PIN 17
# setp hm2_7i76e.0.gpio.08.is_output true
# net dout-08 hm2_7i76e.0.gpio.008.out

        # setp hm2_7i76e.0.gpio.008.is_output false
        # net ventilklappe hm2_7i76e.0.gpio.008.out <= motion.digital-out-00

# --- DOUT-09 --- auf  TB5 PIN 18
# setp hm2_7i76e.0.gpio.09.is_output true
#  net dout-09 hm2_7i76e.0.gpio.09.out

# --- DOUT-10 ---auf  TB5 PIN 19
 # setp hm2_7i76e.0.gpio.10.is_output true
#  net dout-10 hm2_7i76e.0.gpio.10.out

# --- DOUT-11 ---auf  TB5 PIN 20
#  setp hm2_7i76e.0.gpio.11.is_output true
#  net dout-11 hm2_7i76e.0.gpio.11.out

# --- DOUT-12 ---auf  TB5 PIN 21
#  setp hm2_7i76e.0.gpio.12.is_output true
#  net dout-12 hm2_7i76e.0.gpio.12.out

# --- DOUT-13 ---auf  TB5 PIN 22
#  setp hm2_7i76e.0.gpio.13.is_output true
#  net dout-13 hm2_7i76e.0.gpio.13.out


# --- DOUT-14 ---auf  TB5 PIN 23
#  setp hm2_7i76e.0.gpio.14.is_output true
#  net dout-14 hm2_7i76e.0.gpio.14.out

# --- DOUT-15 ---auf  TB5 PIN 24
#  setp hm2_7i76e.0.gpio.15.is_output true
#  net dout-15 hm2_7i76e.0.gpio.15.out



# external input signals  DIN 5-16 TB5 zweiter Stecker (24 pol. von hinten)

# --- MIN-X ---  TB5 PIN5
# net x-neg-limit <=  axis.0.neg-lim-sw-in  hm2_7i76e.0.gpio.020.in  <= motion.digital-in-00

# --- MAX-X ---  TB5 PIN6
# net max-x     <=  hm2_7i76e.0.gpio.21.in

# --- HOME-X ---TB5 PIN7
# net home-x     <=  hm2_7i76e.0.gpio.22.in

# --- MIN-Y ---TB5 PIN8
# net min-y     <=  hm2_7i76e.0.gpio.23.in

# --- MAX-Y ---TB5 PIN9
# net max-y     <=  hm2_7i76e.0.gpio.24.in

# --- HOME-Y ---TB5 PIN10
```

```
# net home-y     <=  hm2_7i76e.0.gpio.25.in

# --- MIN-Z ---TB5 PIN11
# net min-z     <=  hm2_7i76e.0.gpio.26.in

# --- MAX-Z ---TB5 PIN12
# net max-z     <=  hm2_7i76e.0.gpio.27.in

# --- HOME-Z ---TB5 PIN13
# net home-z     <=  hm2_7i76e.0.gpio.28.in

# --- ESTOP-EXT ---TB5 PIN14
# net estop-ext     <=  hm2_7i76e.0.gpio.29.in

# --- DIN-00 ---TB5 PIN15
# net din-00     <=  hm2_7i76e.0.gpio.30.in

# --- DIN-01 ---TB5 PIN16
# net din-01     <=  hm2_7i76e.0.gpio.31.in


# external Input signal DIN 0-15 TB6

# --- DIN-004 --- auf  TB6 PIN 5

# net wunzi <=   hm2_7i76e.0.gpio.004.in <= motion.digital-in-06



# external Output signal DOUT 0-7 TB6

# --- DOUT-07 --- auf  TB6 PIN 24
 # setp hm2_7i76e.0.gpio.007.is_output true
# net hunzi hm2_7i76e.0.gpio.007.out <= motion.digital-out-05




#********************
#  AXIS X
#********************

# PID signals/setup

setp   pid.x.Pgain     [AXIS_0]P
setp   pid.x.Igain     [AXIS_0]I
setp   pid.x.Dgain     [AXIS_0]D
setp   pid.x.bias      [AXIS_0]BIAS
setp   pid.x.FF0       [AXIS_0]FF0
setp   pid.x.FF1       [AXIS_0]FF1
setp   pid.x.FF2       [AXIS_0]FF2
setp   pid.x.deadband  [AXIS_0]DEADBAND
setp   pid.x.maxoutput [AXIS_0]MAX_OUTPUT

net x-index-enable  pid.x.index-enable <= axis.0.index-enable => hm2_7i76e.0.encoder.00.index-enable
net x-enable        pid.x.enable <= axis.0.amp-enable-out  => hm2_7i76e.0.stepgen.00.enable =>
hm2_7i76e.0.gpio.013.out
net x-output        pid.x.output => hm2_7i76e.0.stepgen.00.velocity-cmd
net x-pos-cmd       axis.0.motor-pos-cmd => pid.x.command
net x-vel-fb        hm2_7i76e.0.encoder.00.velocity => pid.x.feedback-deriv
net x-pos-fb        axis.0.motor-pos-fb <= hm2_7i76e.0.encoder.00.position => pid.x.feedback

# Step Gen signals/setup
```

```
setp   hm2_7i76e.0.stepgen.00.dirsetup        [AXIS_0]DIRSETUP
setp   hm2_7i76e.0.stepgen.00.dirhold         [AXIS_0]DIRHOLD
setp   hm2_7i76e.0.stepgen.00.steplen         [AXIS_0]STEPLEN
setp   hm2_7i76e.0.stepgen.00.stepspace       [AXIS_0]STEPSPACE
setp   hm2_7i76e.0.stepgen.00.position-scale  [AXIS_0]STEP_SCALE
setp   hm2_7i76e.0.stepgen.00.step_type       0
setp   hm2_7i76e.0.stepgen.00.control-type     1
setp   hm2_7i76e.0.stepgen.00.maxaccel         [AXIS_0]STEPGEN_MAXACCEL
setp   hm2_7i76e.0.stepgen.00.maxvel           [AXIS_0]STEPGEN_MAXVEL


# ---Encoder feedback signals/setup---

setp    hm2_7i76e.0.encoder.00.counter-mode 0
setp    hm2_7i76e.0.encoder.00.filter 1
setp    hm2_7i76e.0.encoder.00.index-invert 0
setp    hm2_7i76e.0.encoder.00.index-mask 0
setp    hm2_7i76e.0.encoder.00.index-mask-invert 0
setp    hm2_7i76e.0.encoder.00.scale  [AXIS_0]ENCODER_SCALE


# ---setup home / limit switch signals---

net x-home-sw      =>  axis.0.home-sw-in
net x-neg-limit    =>  axis.0.neg-lim-sw-in
net x-pos-limit    =>  axis.0.pos-lim-sw-in


#********************
#  AXIS Y
#********************


#********************
#  AXIS Z
#********************


#********************
#  SPINDLE S
#********************



#  ---estop signals---

net estop-out    <=  iocontrol.0.user-enable-out
net estop-out    =>  iocontrol.0.emc-enable-in

#  ---manual tool change signals---

loadusr -W hal_manualtoolchange
net tool-change-request     iocontrol.0.tool-change       =>  hal_manualtoolchange.change
net tool-change-confirmed   iocontrol.0.tool-changed      <=  hal_manualtoolchange.changed
net tool-number             iocontrol.0.tool-prep-number  =>  hal_manualtoolchange.number
net tool-prepare-loopback   iocontrol.0.tool-prepare      =>  iocontrol.0.tool-prepared
```