

Part and Inventory Search

Top Helped / Month

Audioguru (31), KlausST (31), FvM (29), c_mitra (23), BradtheRad (20)

Welcome to EDABOARD.com

Top Posters

FvM (35139), alexan_e (11851), keith1200rs (10878), bigdogguru (9737), BradtheRad (9194)

New Posts

CCS trigonometric calculation (11)
 RF's output impedance to couple antenna (5)
 Power factor measurement using PIC18F4520 (264)
 Matlab code to flow chart (1)
 Measure DC current Using Shunt (3)
 cascading amplifiers (0)
 A switch ON /OFF with the presence of a iron bar (6)
 Voltage regulators and the power of connected devices. (18)
 Pal /gal device reader (2)
 CST simulation-dielectric loaded waveguide (0)
 My AC phase control circuit by Arduino has a weird problem?? (2)
 set_load,set_driving_cell synopsys (0)
 How i can write and read eeprom 24c64 with at 89c52 ? (2)
 FEKO mathematical time signal (1)
 Altera DE1 Verilog Final Project (1)
 Are audio amplifiers supposed to amplify voltage, current or both? (4)
 What's the name of this capacitor? (11)
 Program to FPGA communication on MAC layer (2)
 When connecting a 5V <-> 3.3V communication, do we need transceiver or level translator (7)
 Diy Bench power supply Oscillating with Car lamps as load (15)
 TL431/Opto error amplifier transfer function is incorrect? (feedback in SMPS) (0)
 Special Variable resistor with NO/NC button Intrfacing (4)
 HFSS simulation error: failure in processing solution for output. (1)
 How to add the body connection for a UMC 180 triple well nmos? (6)
 Xilinx MIG Traffic Generator problem (board level) (5)

Sponsor


The Smarter, Simpler CRM

[Start Free Trial](#)
[+ Post New Thread](#)

Results 1 to 19 of 19

What does it mean by NPN sensor & PNP sensor ?
[LinkBack](#)
[Thread Tools](#)
[Search Thread](#)

5th May 2012, 22:50

#1

danishdeshmuk

Advanced Member level 1

 Join Date: Aug 2011
 Posts: 428
 Helped: 35 / 35
 Points: 2,341
 Level: 11

What does it mean by NPN sensor & PNP sensor ?

What does it mean by NPN sensor & PNP sensor ?

what's the difference between the two ?

How differently they're used in specific application ?

5th May 2012, 23:00

#2

mgate

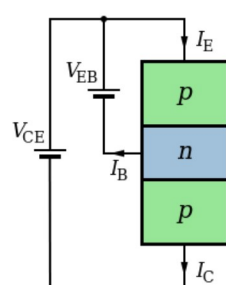
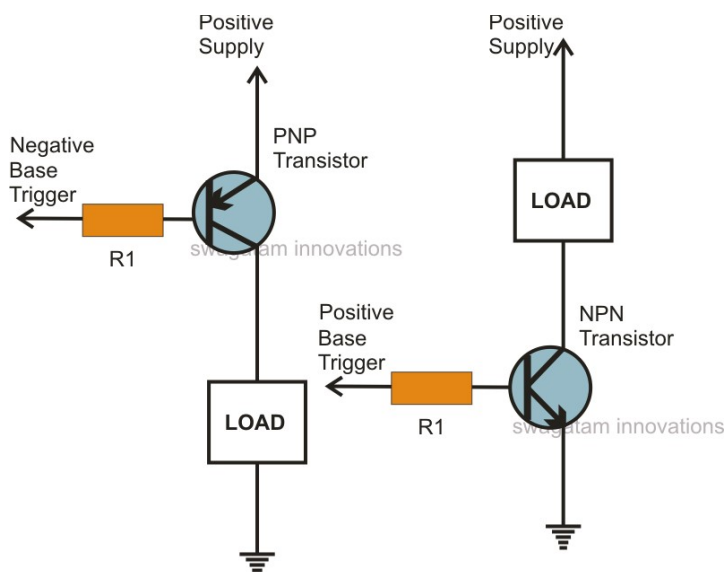
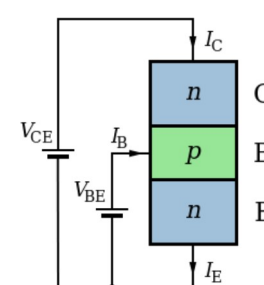
Full Member level 4


 Join Date: Apr 2012
 Location: Portugal
 Posts: 197
 Helped: 37 / 37
 Points: 1,381
 Level: 8

Re: What does it mean by NPN sensor & PNP sensor ?

I'm not sure, but I think those are sensors that use a Bipolar junction transistor...

Probably they trigger a logic signal... I think the sensor sensing part should be connected to the base o a transistor NPN or PNP... And they are probably used as normal transistors

PNP

NPN




datasheetpro
Electronic Parts Search

DataSheetPro.com is for electronic parts and datasheets.


EE News, Tips and Resources

New selection of wideband attenuators from IDT 4/8/2016
4Gbaud quad-channel linear modulator driver 4/6/2016
36-V op amps target industrial uses 4/5/2016

Recently Updated Groups

RFID Technologies, High Speed PCB Design concept,EMI EMC,Crosstalk,differential pair conderation and Layer stack defin, High Speed PCB designing, Cadence OrCad user group, Altium Designer, PCB DESIGNER HOME, PCB design, Signal Integrity, HFSS Simulator, HFSS

Sponsor




datasheetpro
Electronic Parts Search

DataSheetPro.com is for electronic parts and datasheets.

Top Experience Points

FvM (207293), IanP (160151), bigdogguru (67664), betwixt (54280), tsb_nph (53644)


7th May 2012, 15:04



Sponsored links

ADI Circuit Design Tools
Analog Devices, Inc.
Simulate Results to Discover Real World Performance. Try ADI Tools.

7th May 2012, 15:08




Sponsored links

Buy Pre-Owned Mercedes

Authorized Mercedes-Benz® Dealer In Sacramento. View Inventory!

7th May 2012, 15:35



Sponsored links

MEMS Inertial Sensor Tips

Are Your MEMS Sensors Aligned? Get Your MEMS Sensor Alignment PDF.

Last edited by mgate; 5th May 2012 at 23:20.

teach in order to learn

5th May 2012, 23:25 #3

FvM
Super Moderator
Awards:
Join Date: Jan 2008
Location: Bochum, Germany
Posts: 35,140
Helped: 10865 / 10865
Points: 207,360
Level: 100


Re: What does it mean by NPN sensor & PNP sensor ?
Your assumption is basically correct. The terms are describing the output polarity of sensors with digital logic output based on an output transistor in common emitter configuration. "PNP" refers to positive supply switching, "NPN" to ground switching. "PNP" is the output type needed to interface with industry standard PLCs.

7th May 2012, 15:04 #4

danishdeshmuk
Advanced Member level 1
Join Date: Aug 2011
Posts: 428
Helped: 35 / 35
Points: 2,341
Level: 11

Re: What does it mean by NPN sensor & PNP sensor ?
With the help of DMM, can we check whether the given sensor is NPN or PNP ?
----- Post added at 19:04 ----- Previous post was at 19:02 -----
in terms of NPN & PNP sensor, what does it mean by load ? that is being shown in the images of NPN & PNP type sensors

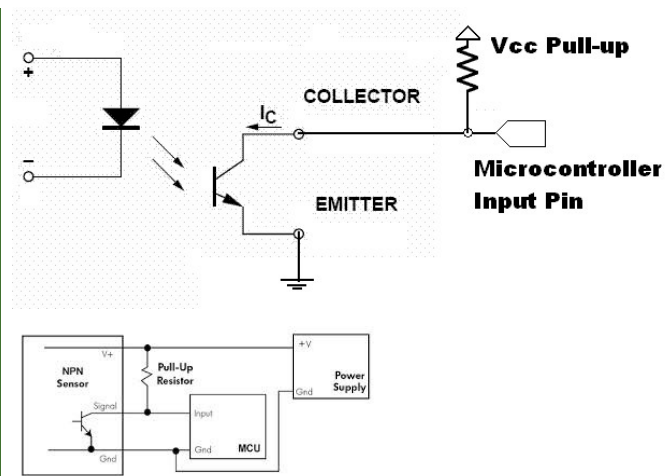
7th May 2012, 15:08 #5

mgate
Full Member level 4

Join Date: Apr 2012
Location: Portugal
Posts: 197
Helped: 37 / 37
Points: 1,381
Level: 8

Re: What does it mean by NPN sensor & PNP sensor ?

in terms of NPN & PNP sensor, what does it mean by load ? that is being shown in the images of NPN & PNP type sensors

Load could be for example a relay, or the input of a microcontroller .. (although with the microcontroller you would need to use a pull up or pull down resistor according to the type) ..
i.e. interface of a opto NPN sensor to microcontroller



Last edited by mgate; 7th May 2012 at 16:35.

teach in order to learn

7th May 2012, 15:23

#6

danishdeshmuk

Advanced Member level 1

Join Date: Aug 2011

Posts: 428

Helped: 35 / 35

Points: 2,341

Level: 11

!

Re: What does it mean by NPN sensor & PNP sensor ?

How to measure the correct output voltages of both the types whether npn or pnp if the output voltage is 24 Vdc ?

----- Post added at 19:23 ----- Previous post was at 19:13 -----

would npn generate the positive output & pnp generate the negative output ? If yes, then , with what (which) reference ?

7th May 2012, 15:35

#7

mgate

Full Member level 4

Join Date: Apr 2012

Location: Portugal

Posts: 197

Helped: 37 / 37

Points: 1,381

Level: 8

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

!

Re: What does it mean by NPN sensor & PNP sensor ?

You can imagine it working as a switch...

when activated, NPN will allow current to flow from the collector to the emitter, meaning it will generate a negative output a the collector (because it will stay at the same potential of the emitter)...

when activated, PNP will allow current to flow from the emitter to the collector, meaning it will generate a positive output a the emitter (because it will stay at the same potential of the collector)...

Its somehow similar to a relay

teach in order to learn

7th May 2012, 15:47

#8

danishdeshmuk

Advanced Member level 1

Join Date: Aug 2011

Posts: 428

Helped: 35 / 35

Points: 2,341

Level: 11

!

Re: What does it mean by NPN sensor & PNP sensor ?

but to check whether its working fine or not, what should be the output voltages for npn & for pnp sensors ? and, where the DMM probes be connected to get the confirmation ?

if we connect DMM red probe to positive 24 VDC input supply to the sensor & common (black) probe to output wire then what should be the readings ?

7th May 2012, 16:19

#9

mgate

Full Member level 4

Join Date: Apr 2012

Location: Portugal

Posts: 197

Helped: 37 / 37

Points: 1,381

Level: 8

!

!

!

Re: What does it mean by NPN sensor & PNP sensor ?

In NPN.. If you put the common probe on the output, and the positive probe in the 24v supply, you should read 24v on the digital multimeter when its active..

In the PNP, if you put the common probe on the the negative source, and the positive probe on the output, you should get 24v when its active..



Join Date: Apr 2012
Location: Portugal
Posts: 197
Helped: 37 / 37
Points: 1,381
Level: 8

Although I'm not absolutely sure

teach in order to learn

7th May 2012, 16:26

#10

danishdeshmuk

Advanced Member level 1



Join Date: Aug 2011
Posts: 428
Helped: 35 / 35
Points: 2,341
Level: 11



Re: What does it mean by NPN sensor & PNP sensor ?

DMM would read +ve 24 Vdc in case of NPN & would read -ve 24Vdc in case of PNP by connecting as you recommended up there in the previous post ???

7th May 2012, 16:34

#11

mgate

Full Member level 4



Join Date: Apr 2012
Location: Portugal
Posts: 197
Helped: 37 / 37
Points: 1,381
Level: 8

Re: What does it mean by NPN sensor & PNP sensor ?

Originally Posted by **danishdeshmuk**

DMM would read +ve 24 Vdc in case of NPN & would read -ve 24Vdc in case of PNP by connecting as you recommended up there in the previous post ???

No .. the way I've described you well get +24DC on both cases

teach in order to learn

7th May 2012, 16:49

#12

danishdeshmuk

Advanced Member level 1



Join Date: Aug 2011
Posts: 428
Helped: 35 / 35
Points: 2,341
Level: 11



Re: What does it mean by NPN sensor & PNP sensor ?

if we reverse the checking set-up that you told , then, what would happen ?

7th May 2012, 16:51

#13

mgate

Full Member level 4



Join Date: Apr 2012
Location: Portugal
Posts: 197
Helped: 37 / 37
Points: 1,381
Level: 8

Re: What does it mean by NPN sensor & PNP sensor ?

what do you mean by reverse?... can you be more explicit?

teach in order to learn

7th May 2012, 17:10

#14

danishdeshmuk 

Advanced Member level 1


 Join Date: Aug 2011
 Posts: 428
 Helped: 35 / 35
 Points: 2,341
 Level: 11



Re: What does it mean by NPN sensor & PNP sensor ?

means if i have to check npn sensor & i checked its output voltage as if a pnp sensor ? And vice versa

7th May 2012, 17:53

#15

mgate 

Full Member level 4



 Join Date: Apr 2012
 Location: Portugal
 Posts: 197
 Helped: 37 / 37
 Points: 1,381
 Level: 8

Re: What does it mean by NPN sensor & PNP sensor ?

well, if you check a PNP as if it was a NPN, or a NPN as if it was a PNP, you will get always 0v reading in the DMM , at least I think you will

teach in order to learn

3rd June 2012, 09:28

#16

danishdeshmuk 

Advanced Member level 1


 Join Date: Aug 2011
 Posts: 428
 Helped: 35 / 35
 Points: 2,341
 Level: 11






Re: What does it mean by NPN sensor & PNP sensor ?

when i measure a PNP , Normally Closed (NC) sensor , on its output , when i connect the red (positive) probe of DMM to ground / common & negative (black) probe to output (black wire) the DMM showed -24 V dc Is it the right way to test the PNP sensor with a DMM ?

3rd June 2012, 10:16

#17

FvM 

Super Moderator


 Awards:

 Join Date: Jan 2008
 Location: Bochum, Germany
 Posts: 35,140
 Helped: 10865 / 10865
 Points: 207,360
 Level: 100

Re: What does it mean by NPN sensor & PNP sensor ?

Is it the right way to test the PNP sensor with a DMM ?

You are connecting the DMM to the right terminals, but why do you connect the instrument reversed with red cable to negative supply ground and black cable to positive output? Connecting it straight with black cable to ground makes more sense, isn't it?

3rd June 2012, 11:18

#18

danishdeshmuk 

Advanced Member level 1


 Join Date: Aug 2011
 Posts: 428
 Helped: 35 / 35
 Points: 2,341
 Level: 11



Re: What does it mean by NPN sensor & PNP sensor ?

so if i connect the Red Probe (positive) to the output (black wire) & common/ground probe to the negative / 0v (blue wire) , then , on its output the PNP sensor would give 24 VDC ??? Am i right now & is the sequence of connecting the probes right too ?




- - - Updated - - -

And for the NPN one , the Red Probe (positive) to the positive 24 Vdc supply (brown wire) & common/ground probe to the output (white wire) , then , on its output the PNP sensor would give 24 VDC or -24 VDC ??? Am i right now & is the sequence of connecting the probes right too ?

3rd June 2012, 11:54

#19

FvM 

Super Moderator


 Awards:

 Join Date: Jan 2008
 Location: Bochum, Germany
 Posts: 35,140
 Helped: 10865 / 10865
 Points: 207,360
 Level: 100

Re: What does it mean by NPN sensor & PNP sensor ?

I would do as you said in both cases.

[+ Post New Thread](#)

« Are these calculations right about solar panel ? | Why are surface mount LEDs recommended pad sizes so small? »

LinkBacks (?)

[pnp npn sensor](#)
[Reback This thread](#)

15th September 2014, 16:19

Similar Threads

[gas sensor,temperature sensor &voice sensor\(help me plea](#) (2)
[Current sensor with 100kHz bandwidth - what does it mean?](#) (1)
[How to Differentiate the Transistor NPN & PNP?](#) (3)
[NPN PNP output sensor ... any idea](#) (1)
[How can I calculate the β of npn or pnp in an op a](#) (0)

[-- Edaboard Classic](#)

[Contact Us](#) [Forum for Electronics](#) [Privacy Statement](#) [Terms of Service](#) [Top](#)

All times are GMT +1. The time now is 17:39.

Powered by vBulletin™
Copyright © 2010 vBulletin Solutions, Inc. All rights reserved.
SEO by vBSEO ©2011, Crawlability, Inc.

--[[]]