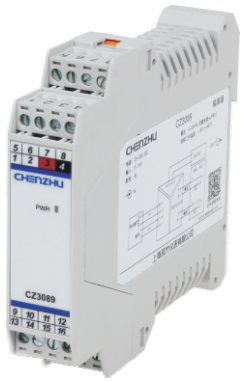
Isolator

CZ3055



Please read the instruction manual carefully before use the product, and please safekeeping.

⚠ Caution

- Please check whether the product type on the package accords to the ordering contract;
- Read this manual carefully before installation or using. If there is something unclear,please dial technic support hotline-400 881 0780;
- Supply voltage is 24VDC, 220VAC is forbidden;
- Users are not allowed to dismantle or repair the Isolator otherwise it will induce malfunction.

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Summarize

The frequency transducer, frequency signal will be set according to the user to convert the linear range 4~20mA (or 0~20mA)output.The product has one relay alarm output.This product need be supplied independently,and the power supply,input and output are isolated from each other.

Specification

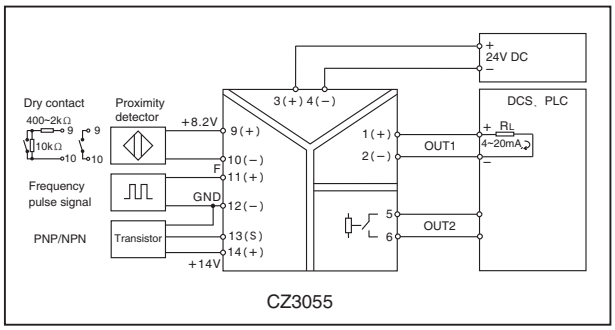
Number of channels: 1
Supply voltag: 20~35V DC
Current consumption: (24V power supply,20mA output Relay closure)≤90mA
Input:
Signal type:
1) 3-wire PNP/NPN sensor output:
Sensor distribution: 14V DC, current: <20mA
Input frequency: 0.1Hz~100kHz
2) Frequency input signal:
Input frequency: 0. 1Hz~100kHz
Maximum input voltage: 30Vp-p
Minimum input level: ∿ 2V, (2Hz~100KHz)
⎍ 2V, (0.1Hz~100KHz)
3) Proximity switch, dry contact switch input:
Sensor distribution: approx≈8V; short-circuit current: approx≈8mA
Input frequency: 0.1Hz~100kHz
Output:
Current: 0~20mA/4~20mA
Load resistance: ≤400Ω
Voltage: 0~5V/1~5V
Load resistance: ≥300kΩ
Transfer accuracy: 0.1% F.S.
Temperature drift: 0.01%F.S./℃
Relay characteristics:
Response time: ≤20ms
Drive ability: 250V AC/2A or 30V DC/2A
Load type: Resistive load
Pulse width: ≥2μs
Input signal fault detection function:
If the input signal exceeds the top measuring range set,output current 22mA(or output voltage 5.5V), the relay aets as the input, SPH LED ON, faceplate display “full”.
If the input signal fallen below the measuring range set, output current 3mA (or output voltage 0.75V), the relay aets as the input, SPL LED ON, faceplate display “nfull”.
If the input signal fault and input signal can’t transmission,output current2mA(or output voltage 0.5V),the relay aets as the input, SPH.SPL ON,faceplate display “no in”.
input signal model is: in2.H/in2.r:
If the input loop-current I<0.1mA, proximity switch alarm(break line), output current 2mA,the relay aets as the input,SPH.SPL LED ON, faceplate display “inopn”.
If the input loop-current I>6mA, proximity switch alarm(shout circuit)output current 2mA, the relay aets as the input, SPH.SPL LED ON, faceplate display “insot”.
Note: If input signal top limit overflows or lower limit overflows or input signal faults, the output current can be configured to any value of 0~24mA (0~6V for voltage) separately.
Start delay time: 0~9999s
When the output relay is set to alarm mode with under-speed, the instrument will not output an alarm signal during the launch delay time after power on due to the under speed of input signal.
Input fault response time: 0.1~999.9s
The input signal pattern choice:
in H:Frequency input for NAMUR(2、3、4-wire sensor, dry contact switch,incremental encoders)at Hz.
in r: Frequency input for NAMUR(2、3、4-wire sensor, dry contact switch,ncremental encoders) at min^{-1}.
in2 H: Switching input for NAMUR,with input wirebreak and input short-circuit recognition. at Hz.
in2 r: Switching input for NAMUR,switching input for NAMUR,with input wirebreak and input short-circuit recognition.at min^{-1}.
Not: If users need to switch measurement display unit, (Hz or min^{-1}), you need to set measuring range、alarm、alarm hystersis and so on.
The LED indicator light instructions:
SPH: If the input signal exceeds the top alarm(contains dead band) LED ON.
SPL: If input signal fallen below the alarm(contains dead band) LED ON.
SPH、SPL ON: Input signal fault.
RAL ON: Output relay closure.

Electromagnetic compatibility: According to GB/T 18268(IEC 61326-1)
Dielectric strength:
1500V AC;1minute(among power supply input and output)
Insulation resistance:
⩾100MΩ;500V DC(among power supply,input,output and the shell)
Weight: Approx.150g
Suitable is apparatus:
Dry contact or DIN19234 standard NAMUR proximity switch input field devices (including the intrinsically safe type pressure switch, temperature switches, liquid level switch). Level pulse signal, 3-wire system PNP/NPN sensor output, incremental encoder

Operation Conditions

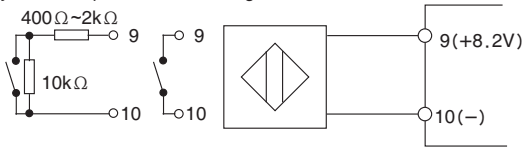
(1). The air should not contain any medium corrupting the coat of chrome,nickel and silver.Moreover,violent quiver and impact or any cause of electromagnetic induction (such as big current or spark,etc.)must be avoided when using.
(2). Operating temperature: –20℃~+60℃
(3). Storage temperature: –40℃~+80℃
(4). Relative humidity: 10%~90%

Application



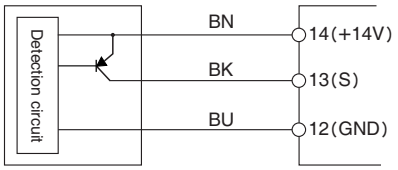
Input connection diagram

1) Proximity switch, Input connection diagram:

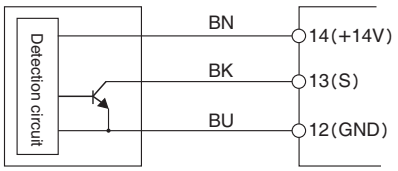


Note: switch input, need to break and short circuit monitoring of the need to switch to 10Ω resistors in parallel on both sides, and the switch side of the 400Ω ~2kΩ resistor in series.

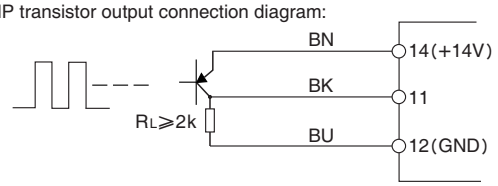
2) 3-wire PNP output sensor connection diagram:



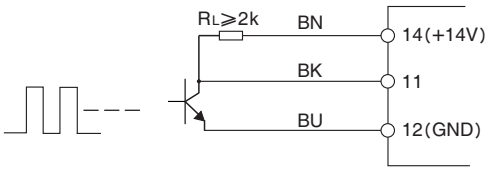
3) 3-wire NPN output sensor connection diagram:



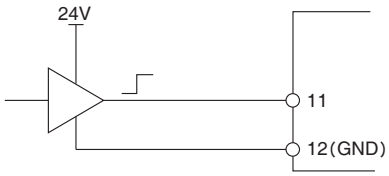
4) PNP transistor output connection diagram:



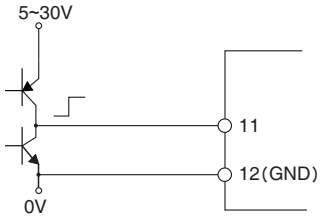
5) NPN transistor output connection diagram:



6) Incremental encoders with HTL logse connection diagram:



7) Incremental encoders with push-pull connection diagram:

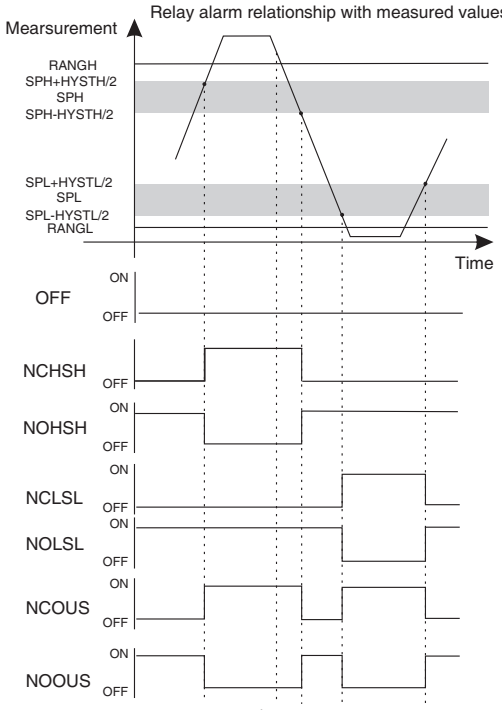


Symbols explain of relay alarm

OFF: Relay normally open
NCHSH: If input signal is higher than the top alarm(contains dead band), the output relay closes.
NOHSH: If input signal is lower than the top alarm(contains dead band), the output relay closes.
NCLSL: If input signal falls below the alarm(contains dead band), the output relay closes.
NOLSL: If input signal falls below the alarm(contains dead band), the output relay closes.
NCOUS: If input signal exceeds the top alarm, or falls below the alarm(contains dead band),the output relay closes.
NOOUS: If input signal exceeds the top alarm, or falls below the alarm(contains dead band),the output relay closes.

Alarm relay

Relays are normally open and SPST type. after power, After power up, the relay is set to normally open or normally closed state according to the user about the configuration of the relay by microcontroller. Relays can be arbitrary, independent setting one of seven kinds of alarm modes. The alarm states of relay for measurement exceeds the range and for measurement exceeds the alarm point are the same.
Normally open output: two relay contacts normally open(OFF)when the measered value in normal.
Normally close output: two relay contacts normally closed(ON) when the measered value in normal.
The relationship between relay actiens and measured values:



During power-up delay relay contact output status:

When the relay is set to OFF,NCHSH or NOHSH, no start delay function, the relay action based on measurements;

When the relay is set to NCLSL or NCOUS,the during power-up delay period, the relay maintain open, after the power-up time, the relay action based on measurements;

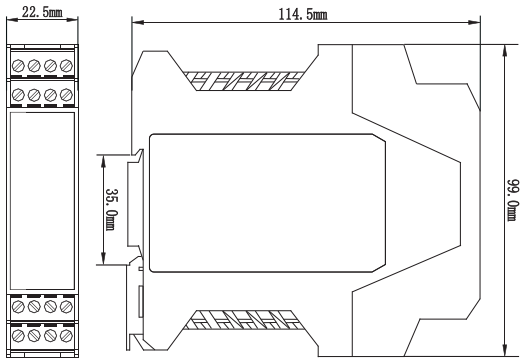
When the relay is set to NOLSL or NOCUS,the during power-up delay period, the relay maintain close, after the power-up time , the relay action based on measurements.

Instrument factory Settings

Input signal pattern: in.H
lower limit range: 0.100 Hz
Maximum range: 100.0 kHz
One alarm relay mode: OFF
Two alarm relay mod: OFF
Alarm low: 10.00 kHz
Alarm high: 90.00 kHz
Alarm low dead band value: 4000 Hz
Dead zone alarm high value: 4000 Hz
Start delay time: 10.0 s
Filter coefficients: 1
Input signal failure response time: 100.0s
Output signal: 4~20 mA(or 0~5V)
Fault alarm input current: 2.00 mA(or 0.5V)
The overflow alarm limit current: 22.00 mA(or 5.5V)
Overflow alarm limit current: 3.00 mA(or 0.75V)

Dimensions

114.5mm×99.0mm×22.5mm

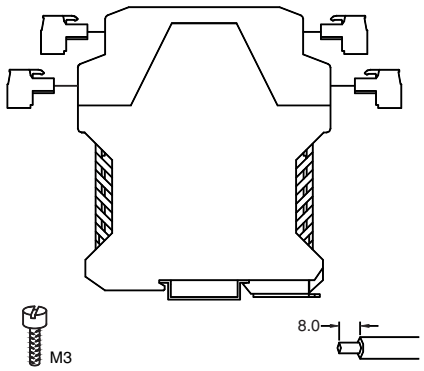


Connections

(1)The isolators adopt knock-down terminals.

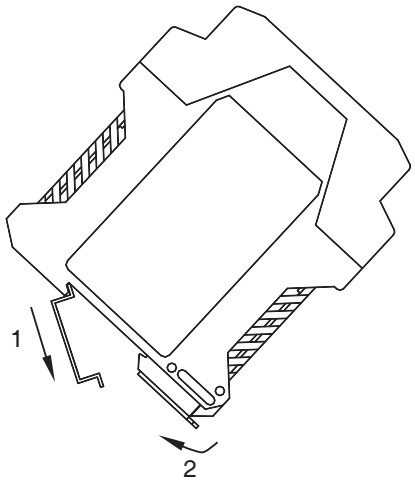
(2)The wires are single or multiple cables with cross section of 0.5 mm^2~2.5mm^2.

(3)A length of 8mm bared wire is locked by the M3 bolt, As shown in figure.



Installation

Mount the module on a 35mm DIN rail
(1) Make the upside of the isolator to the rail;
(2) Push the downside of the isolator towards the rail.

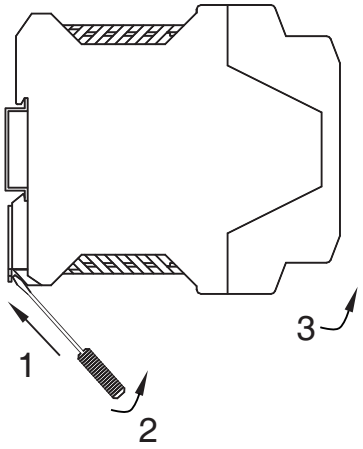


Disassembly

(1) Use a screwdriver (edge length≤6mm) insert the metal lock which at the downside of the isolator;

(2) Push the screwdriver upwards,and pull the metal lock downwards;

(3) Take out the isolator from the rail.



Maintenance

(1) Every product has been tested strictly before delivery.If users find any abnormality,please contact the nearest agent or our company.

(2) In 5 years from delivery date,if the product performs abnormally under normal use conditions,we will repair it for free.