（1）N70/N80/N90 description

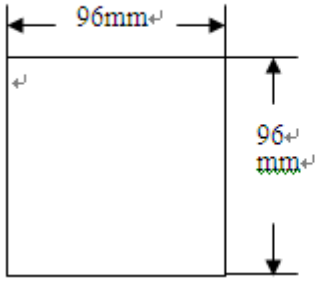
N70/N80/N90 pressure indicator is a 1/8 DIN or ¼ DIN, panel-mount, dual 4-digit indicator, which takes the advantage of latest state-of-art technology and comes in small-size, light-weight and in low-power. This pressure indicator has been specifically designed for use with mv/Volt output transducers from different famous manufacturers such as Dynisco, Gefran, ONEhalf20 and so on. This series indicator can match ZHYQ's melt pressure transducer also.

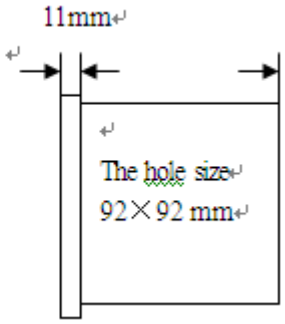
（2）N70/N80/N90 Indicator Specification

(1)	Display	Dual 4-digit Green and Red LEDs
(2)	Resolution	0001
(3)	LEDs	Out, Alarm-1, Alarm-2, CALibration
(4)	Input Sensibility	2mv/V or 3.33mv/V, 0-20mA ,4-20mA,0-5V,0-10V (optional)
(5)	Sampling Speed	20 per second
(6)	Excitation Voltage to Pressure sensor	+9 VDC (output to transducer) +24VDC (output to transmitter)
(7)	All Output Relays	Relay 220V 1A
(8)	Retransmission	4~~20 mA standard current loop
(9)	Communication	RS-485 MODBUS(N70 Only)
(10)	Alarm Range	0001 – 9999 PSI or Bar (configurable)
(11)	Temperature	0 - 55°C
(12)	Humidity	<= 80% RH
(13)	Calibration	80% FSO (Full Scale Output)
(14)	Power Supply	110/220VAC or +24VDC (designated while purchasing)
(15)	Size	N70: 96mm x 96mm x 100 mm (W x H x D) N80: 96mm×48mm×100 mm (W x H x D) N90: 48mm×96mm×100 mm (W x H x D)
(16)	Panel Cutout	N70: 92mm x 92mm N80: 92mm×44mm N90: 44mm×92mm
(17)	Weight	400(Maximum) grams

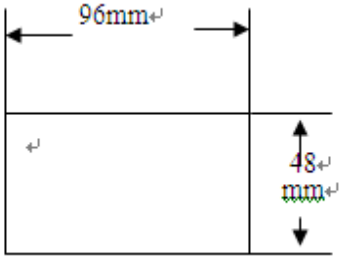
（3）N70/N80/N90 Indicator Panel description

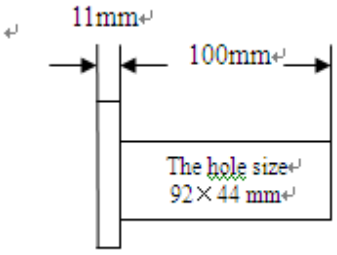
N70



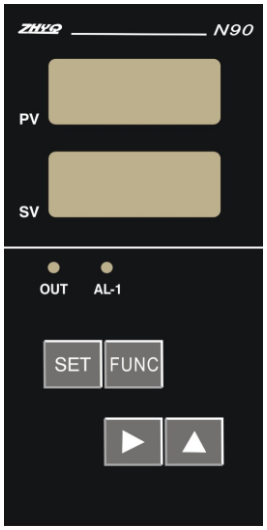


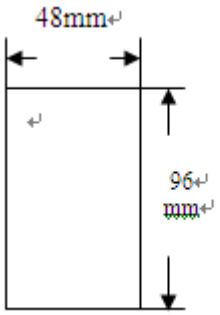
N80

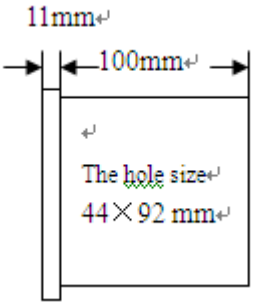




N90







（4）N70/N80/N90 Pressure Indicator Manual

(1) “OUT” LED turns on when the pressure is not less than the OUT setting value.

“AL-1” LED turns on when the pressure is not less than the AL-1 setting value.

“AL-2” LED keeps reserved.

(2) “CAE” LED truns on when the <CAE> is pressed for checking the calibration.

(3) PV window displays the actual pressure value.

(4) SV windows displays the OUT setting value.

(5) <AC> key: to clear the pressure value when it is under setting and no load is on

(6) <CAE> key: to check the calibration value (80% of Full Scale Output).

(7) <SET> key: to enter the setting mode and to exit the setting mode.

<SET> key has longer-time(more than 3 Second) press and shot-time press.

(8) “>” key: shift the digit to be edited

(9)“∧” key: to edit and increase the value

（5）Wiring Diagram (EXC=Excitation , CAL=Calibration)

N80 Wiring Diagram

9	10	11	12	13	14	15	16
Alarm1 N/O	Alarm 1 Common	Main OUT N/C	Main OUT Common	Main OUT N/O	VAC 85~260	LN	Ground
Signal+ (Blue)	EXC + (Red)	Signal – (Green)	EXC–&CAL1 (Yellow & Brown)	CAL2 (Black)	No connection	Output + AL-2	Output - AL-2
1	2	3	4	5	6	7	8

N70/N90 Wiring Diagram

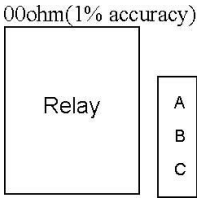
1	Signal +	Blue	9	Alarm 1 N/O
2	EXC +	Red	10	Alarm 1 Common
3	Signal –	Green	11	Main OUT N/C
4	EXC –& CAL1	Yellow & Brown	12	Main OUT Common
5	CAL2	Black	13	Main OUT N/O
6	No connection		14	VAC 85~ 260
7	output + AL-2		15	LN
8	output –		16	Ground

	AL-2			

（6）N70/N80/N90 Indicator Module description

There are three kinds of Modules:

1. Relay output module
2. Current output module (4-20mA) , configurable into (0-20mA), (0-10V) with 500ohm(1% accuracy) resistor in the current loop.
3. Communication module (RS-485).



1. Relay Output Module

One main OUT relay has 3 connection terminals with SPDT NC/NO.

Alarm-1 output relay is either NO or NC, determined by the Jumper selection on the CON1 beside the relay inside. NO State when having the short circuit piece between B,C(Factory default).NC State when having the short circuit piece between A, B.

Alarm -4 output relay has 3 connection terminals with SPDT NC/NO.

2.Current output module (Retransmission)

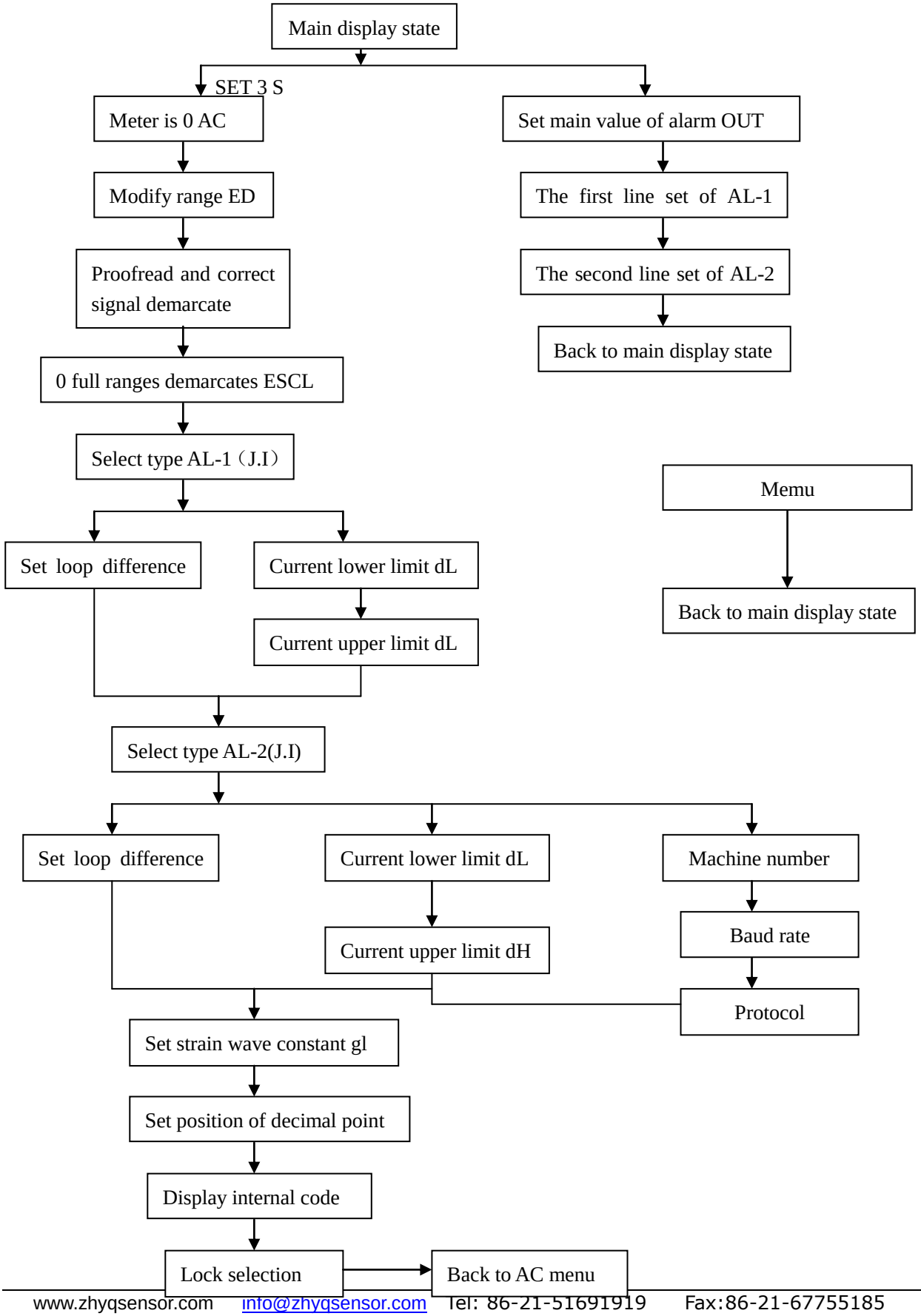
The indicator exports the corresponding pressure value on 4—20mA(refer to Alarm-2 setting) currentloop.It gives out 4mA(setting -dL-=4mA) when the Pressure Value<=0; The current loop output exports 20mA (setting -dH-=20mA) when the pressure value>=full Scale Output. Please refer to the explain of operation in this manual to know how to set –dL- and –dH- setting values.
The (0—20mA) current output is obtained by setting –dL-=0mA; -dH-=20mA.

The voltage output(0-10V) is obtained on the resistor of 500ohm in the 0—20mA current output loop (DL=0mA;DH=20mA).
Setting of Alarm -2 is used for this retransmission current output setting.
The retransmission module is exclusive to RS-485 Communication Module.

3. Communication Module

RS-485 MODBUS Communication Module is optional in PY500 pressure indicator. Baud rate, Parity check as well as other parameters can be configured in the setting of Alarm -3. RS-485 MODBUS communication protocol.

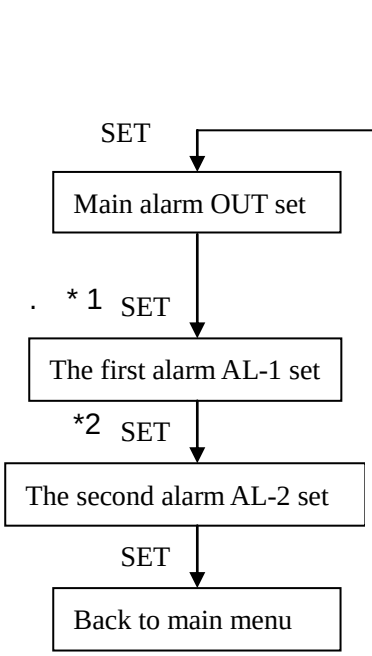
（7） N70/N80/N90 DIGITAL INDICATOR OPERATION FLOW CHART



Remarks:

1. In this flow chart. If you press set for 3 second at anytime, it can be back to main display state.
2. *1menu when the selection “I” for AL-1 type, it does not exist .*2menu when the selection “I” for AL-1 type it dees not exist

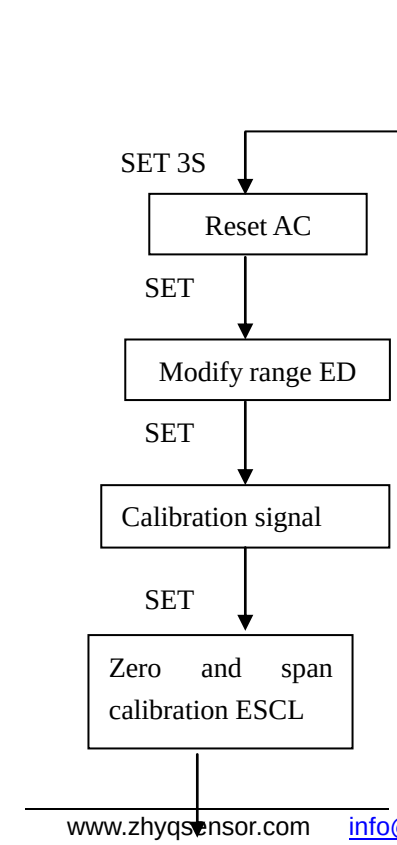
(3 The main siaplay state is the PV/SV display state for the meter after electric correct discocation.



In the showing of PV/SV, enter into OUT set by passing the key SET. It can be modified when you press the key of ∧∨.If you press the key of SET again, the number is stored and If you press the key of SET again, the number is stored and come for the second and it back to main display state.

When the output type of AL-1 is “I” electric current outputting, there is no this window. When the relay is “J”, there is this window. This window is used to set the first line alarm number of AL-1.It can be modified when you press the key of >∧∨.When the value is “0”of no relay output module, the AL-1 Street of meter cannot alarm.

When the output type of AL-2 is “I” electric current outputting, there is no this window. When the relay is “J”, there is this window. This window is used to set the second line alarm value of AL-2.It can be modified when you press the key of >∧∨.When the value is “0”of no relay output module, the AL-2 Street of meter cannot alarm.



In the showing of PV/SV, it can be into AC menu after pressing the key of SET more than 3 second. The meter is “0” and set into the next menu, if you press the key of AC.

This window is used to set modify range. Please press the key of >∧ ∨.When you modify the range, the number is stored and come into the next menu when you press the key of SET after modifying the range. You can also press the key of SET for 3 second and it back to main state. The value can be set 0

This window is calibration 80%FS. Press the key of CAE (You should connect the sensor and pit empty, if you want to do it.) After demarcating it can come into the next menu.

This window is used to calibrate the zero and span. Before you do it, please make sure the indicator contact with the pressure transducer, and make the pressure transducer empty load, then press > key, here the SV window of the indicator display “LOAD”, means you should make the pressure transducer fully loaded, then press > key, so finish the calibration and go into the next menu.

AL-1 Selection (J.I), P.℃

This window is used to select of the passage of AL-1. It can be modified via ∧ . When you choose “J”, the passage of Al-1 is relay output.

SET

Current lower limit dL

This window is used to set The lower Limit of AL-1 Passage electric correct The front two numbers can be modified By moving >∧∨.

SET

Current upper limit dH

This window is used to set the upper Limit of AC-1 passage electric correct. The front two numbers can be modified By pressing >∧∨ key.

SET

SET

Set loop differnce HC

This window is used to set the alarm value Loop difference of the AL-1 passage. It can be modified By pressing >∧∨ key. The loop difference value is less than 0100(besides the decimal point)

AL-2 Selection (HJ. LJ,I,RS485)

RS485

The same as AL-1, select RS485

Machine number

To modify via moving >∧

baud rate

0:1200bps
1:2400bps
2:4800bps
3:9600bps
4:19200bps

Protocol

I

Current lower limit dL

This window is used to set The lower Limit of AC-2 Passage electric correct.

Current upper limit dH

this window is used to set the alarm value Loop difference of the modified By pressing >∧∨

SET

Loop difference HC set

AC-2 passage. It can be modified By pressing >∧∨ key. The loop difference value is less than 0100(besides the decimal point)

SET

Filter constant gl set

This window is used to set the inertia constant of strain wave. The range is from 1 to 8.It can be modified by pressing the key of >∧∨.We set the machine before leaving the factory.

SET

Radix point dot set

This window is used to set the position of the radix point, it can be modified by moving >, and it is 2 bits left factory.

SET

ISN code

This window is used to display ISN code.

SET

Lock selection

This window is used to select whether lock the relevance or not. “1” lock, “0” unlock, press the key of > can be modified.

SET

Back of AC menu

（8）MAINTENANCE

The operating temperature is 0-55^{o}C ,the relative humidity is no more than 80%RH , it can be used in the conditions without dirt or corrosive gas . it can be free repaired within 12 months since leaving our factory . if there is something wrong with the use of customer or the beyond the maintenance , we should charge for the service of repair .

（9）Indicator Model Ordering guide

Panal Cutout Size	
N70	96*96
N80	96*48
N90	48*96
4	Number of Display Digits
Alarms	
1	1 Alarm relay
2	2 Alarm relay
3	3 Alarm relay
Retransmission	
R	Retransmission
N	No Retransmission
Communication	
C	Communication RS-485
Power supply	
D	+24VDC
A	+220VAC