

YCQB SERIES**PRESSURE SENSORS
YCQB**

Pressure sensors are widely used in Air Conditioning, Refrigeration and Heat Pump system. Using a 5V excitation input these sensors provide a 0.5-3.5 V or 0.5-4.5 V ratiometric signal output proportional to the pressure of the medium. This device requires no end user amplification. Pressure sensors permit to control and guarantee the system working under safe and stability condition.

**FEATURES**

- OVERALL FEATURES: APPLIED HIGH PERFORMANCE DIGITAL CIRCUIT WHICH HAS GOOD LINEAR, SMALL TEMPERATURE EXCURSION AND HIGH LEVEL OF ACCURACY OVER WIDE OPERATING RANGE;
- SMALL SIZE AND SIMPLE INSTALLATION;
- MODELS AVAILABLE WITH LEAD WIRE DIRECT CONNECTOR OR WITH PACKARD AND MOLEX SOCKET CONNECTIONS
- STABILITY: APPLIED SUPERIOR PRESSURE CORE, GOOD STABILITY UNDER STRICT PROCESS CONTROL;
- DIVERSIFICATION: DIFFERENT PRESSURE RANGES AND DIFFERENT LEVEL OF ACCURACY

GENERAL SPECIFICATIONS

- Applicable for HFC / HFO / flammables refrigerants and CO₂
- Relative humidity: 0 to 95% RH
- Installation position: preferably with vertical axis and sensor upwards
- Certifications: UL/CSA and declaration according to EMC directive

ELECTRICAL SPECIFICATIONS

- Supply voltage: 5V $\pm$ 0.25V DC
- Current consumption: Max. 10 mA
- Response time: 10 ms
- Insulation resistance: Min. 100 M Ω
- Load resistance: Min. 10 k Ω
- Protection class: IP66/IP67



MODEL DESIGNATION

YCQ	B	02	L	xxxx	YCQ = Pressure Transmitter
YCQ	B	02	L	xxxx	B = Voltage output / C = Current Output
YCQ	B	02	L	xxxx	Pressure range 01 : between 0 and 10 bar 02 : between 0 and 20 bar 03 : between 0 and 30 bar 04 : between 0 and 40 bar 05 : between 0 and 50 bar
YCQ	B	02	L	xxxx	L = Thread / H= Solder
YCQ	B	02	L	xxxx	Digits for additional information

GENERAL CHARACTERISTICS

YCQB with 0.5 to 3.5V output signal

Model Name	Output signal = 0.5 to 3.5V (compatible with Sanhua controller = SEC)						
	Part Number	Solder/Flare*	Pressure range	Max Working pressure	Electrical connection	Accuracy	Medium Temp.
			[bar]	[bar]	Type	%	°C
YCQB02H01	10185004701	Solder	0-20	52,5	2m wires +XHP	±2% FS	-30 / 120
YCQB02H01-01	10185001501		0-20	52,5	2m wires +XHP	±0,8% FS	-40 / 120
YCQB02H18-1	10185015401		0-20	52,5	4.9m wires +XHP	±0,8% FS	-40 / 120
YCQB03H05	10185046601		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120
YCQB05H01	10185004801		0-50	75	2m wires +XHP	±2% FS	-30 / 120
YCQB02L12-1	10185015501	Flare	0-20	52,5	2m wires +XHP	±0,8% FS	-40 / 120
YCQB02L28-1	10185015601		0-20	52,5	4.9m wires +XHP	±0,8% FS	-40 / 120
YCQB03L156	10185046301		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120

* **Flare** = 7/16-20UNF-2B connector / **Solder** = 1/4" connector



YCQB with 0.5 to 4.5V output signal

Output signal = 0.5 to 3.5V (compatible with Sanhua controller = SEC)							
Model Name	Part Number	Solder/Flare*	Pressure range	Max Working pressure	Electrical connection	Accuracy	Medium Temp.
			[bar]	[bar]	Type	%	°C
YCQB02H50	10185004501	Solder	0-13.8	52,5	Packard	±2% FS	-30 / 120
YCQB04H50	10185004601		0-34.5	75	Packard	±2% FS	-30 / 120
YCQB03H06	10185046501		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120
YCQB05H11	10185046101		0-50	75	2m wires +XHP	±2% FS	-40 / 150
YCQB02L01	10185004901		0-20	52,5	2m wires +XHP	±2% FS	-30 / 120
YCQB02L01-01	10185001401	Flare	0-20	52,5	2m wires +XHP	±0,8% FS	-40 / 120
YCQB03L18	10185046401		0-30	75	2m wires +XHP	±0,8% FS	-40 / 120
YCQB05L01	10185007001		0-46	75	2m wires +XHP	±2% FS	-30 / 120
YCQB05L63	10185046001		0-50	75	2m wires +XHP	±2% FS	-40 / 150
YCQB01L50	10185015702		-1 -9.3	52,5	Packard	±2% FS	-30 / 130
YCQB02L50	10185004001		0-13.8	52,5	Packard	±1% FS	-30 / 120
YCQB02L51	10185014101		0-17.2	52,5	Packard	±1% FS	-30 / 120
YCQB03L157	10185046201		0-30	75	Packard	±0,8% FS	-40 / 120
YCQB04L50	10185004201		0-34.5	52,5	Packard	±1% FS	-30 / 120
YCQB05L50	10185004301		0-46	75	Packard	±1% FS	-30 / 120
YCQB05L53	10185013401		0-45	75	Packard	±2% FS	-30 / 130
YCQB03L161	10185045901		0-50	75	Packard	±2% FS	-40 / 150
YCQB02L100	10185009101		0-20	52,5	Molex	±2% FS	-30 / 120
YCQB05L100	10185009201		0-46	75	Molex	±1% FS	-30 / 120

Note: * Flare = 7/16-20UNF-2B connector / Solder = 1/4" connector



YCQB for High pressure use - G 1/4

Model Name	U11	Pressure range	Max Working pressure	Electrical connection	Cable length	Output signal	Medium Temp.
		[bar]	[bar]	Type	[m]	[VDC]	°C
YCQB15L01	10185030302	0-150	225	XHP	2	0.5 to 4.5	-30/+85
YCQB09L02*	10185044102	0-90	225	XHP	2	0.5 to 3.5	-40/+40

Note: * suitable with Sanhua superheat controller SEC61.



YCQB for water use

Suitable with pure water and water + glycol till 50%.

Output signal = 0.5 to 4.5V							
Model Name	Part Number	Solder/Flare*	Pressure range	Max Working pressure	Electrical connection	Cable length	Medium Temp.
			[bar]	[bar]	Type	[m]	°C
YCQB01L503	10185042701	Flare	0-10	52.5	XHP	2	-30/+100

*Flare = 7/16-20UNF-2B connector

Note: 1) Signal span: $VFS=FS$ (Full Scale) = $VA(pr) - VA0$

2) Accuracy measured within the temperature ranges shown in Table 1:

Included Nonlinearity (L) and pressure hysteresis. The Nonlinearity is the deviation of the real sensor characteristic $VA = f(p)$ from the ideal straight line. It can be approximated by a polynomial of second order, with the maximum at $px = pr / 2$.

The equation to calculate the nonlinearity is: $L = (VA(px) - VA0) / (VA(pr) - VA0) - px / pr$

3) Response Time: delay between a pressure change (10 to 90% pr) and the corresponding signal output change (10 to 90% FS)

4) Insulation Resistance measured with rated voltage: 500 VDC

For other connection types (M12, M16...) please contact your Sanhua local representative.

YCQB SERIES

PRESSURE SENSOR



DIMENSIONS

Solder connector 1/4"	7/16-20UNF-2B	G 1/4	Electrical connector
			XHP Connector 1: Vcc - RED 2: VA(pr) - WHITE 3: GND - BLACK
			Packard connector

YCQB SERIES

PRESSURE SENSOR



DIMENSIONS

7/16-20UNF-2B	Electrical connector
	Molex Socket