

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)								
شماره پیمان: 053 – 073 – 9184	I/P Converter Data Sheet							شماره صفحه : 1 از 8	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	AA	120	IN	DS	0003		V01

طرح نگهداشت و افزایش تولید 27 مخزن

I/P Converter Data Sheet
نگهداشت و افزایش تولید میدان نفتی بینک

V01	SEP. 2024	AFC	AAC	M.FAKHARIAN	M.SADEGHIAN	
V00	AUG. 2024	IFA	AAC	M.FAKHARIAN	M.SADEGHIAN	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Status:

IFA: Issued For Approval
IFI: Issued For Information
AFC: Approved For Construction

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)						  	
	I/P Converter Data Sheet						شماره صفحه : 2 از 8	
شماره پیمان:	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک		
053 – 073 – 9184	BK	GCS	AA	120	IN	DS	0003	V01

REVISION RECORD SHEET

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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)									
شماره پیمان: 053 – 073 – 9184	I/P Converter Data Sheet							شماره صفحه : 3 از 8		
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال			نسخه
	BK	GCS	AA	120	IN	DS	0003			V01

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شماره پیمان: 053 – 073 – 9184	I/P Converter Data Sheet							شماره صفحه : 4 از 8	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
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1.0 INTRODUCTION

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Manufacturing (w/Engineering & Material Supply) of Air Coolers
EPD/EPC CONTRACTOR (GC):	Petro Iran Development Company (PEDCO)
OWNER:	OWNER is collectively refer to National Iranian South Oil Company (NISOC) and Petro Iran Development Company (PEDCO)
EPC CONTRACTOR:	Joint Venture of : Hirgan Energy – Design & Inspection(D&I) Companies
VENDOR:	Aban Air Cooler (AAC)
EXECUTOR:	Executor is the party which carries out all or part of construction and/or commissioning for the project.
THIRD PARTY INSPECTOR (TPI):	Third Party Inspector
SHALL:	Is used where a provision is mandatory.
SHOULD:	Is used where a provision is advisory only.
WILL:	Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR.
MAY:	Is used where a provision is completely discretionary.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج کولرهای هوایی ایستگاه تقویت فشار گاز بینک (قرارداد BK-HD-GCS-CO-0015_02)								
شماره پیمان: 053 – 073 – 9184	I/P Converter Data Sheet							شماره صفحه : 5 از 8	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	AA	120	IN	DS	0003		V01

2.0 I/P CONVERTER DATA SHEETS AND CATALOGUE

I/P CONVERTER DATA SHEET						
1. Type : Rail-Mount ☒ Field -Unit ☒ 2. Mounting : Flush ☒ Surface ☒ Local ☒ 3. Input : 4-20 mA. ☒ 0-20 mA ☒ 12-20 mA ☒ 4. Out Put : 3-15 Psi ☒ 6-30 psi ☒ 5. Pneumatic Connection : 1/2" NPT ☒ 1/4 " NPT ☒ 6. Electrical Connection : 1/2"G ☒ M20x1.5 ☒ 7. Enclosure Material : Aluminum housing 8. Power Supply : 24VDC 9. Input air supply : 0.13 ~ 0.16 MPa (1.3 ~ 1.6 bar) 10. Air consumption : Below 2 LPM (sup = 0.14 MPa) 11. Available Instrument air (Min/Max) : 4 / 8.5 barg			10. Enclosure : Safe Area ☒ Explosion Proof ☒ 11. IP Class : IP 54 ☒ IP 55 ☒ IP 65 ☒ 12. Enclosure Protection : EEx ia IIC T6 13. Accessories : Air Filter Regulator , pressure gauge 14. Manufacturer & Model Type Of Converter: YTC , YT-930-I-12L01 15. Manufacturer & Model Type Of Regulators I/P Converter Regulator : YTC , YT-200-AN111 Fan's positioner Regulator : YTC , YT-200-BN211 16. Accuracy : ±0.5% F.S.			
REV.	Tag NO.	Acting Model	Ambient Temp		Service	QTY
			Min	Max		
0	TY-2102 A/B/C	Direct /Linear 01	5° C	50 ° C	Air Cooler	3
0	TY-2101 A/B/C				Air Cooler	3
General Note :						
- Please Refer To Following Pages For Further Information. -The connection between the regulator and I/P Converter is by two Bolt (M8x 85L). -All devices shall be designed to operate at minimum instrument air pressure of 3 barg. -M20 Nickel Brass , EExd, IP 65 Cable Gland suitable for Armored & lead covered cable would be considered.						

IP converters YT-930 / YT-940

Design features

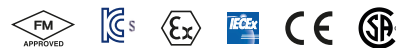
- **Flameproof housing (YT-940)** for Zone 1 installation.
- **High accuracy and sensitivity** with pressure sensor.
- **Analogue PID control.** High resolution proportional control
- **No effect from mounting orientation**

Item type		YT-930	YT-940
Input signal		4-20 mA DC	
Output pressure	Standard	① 0.02 ~ 0.1 MPa (0.2 ~ 1.0 bar)	
	Multi-range	② 0.00 ~ 0.12 MPa (0 ~ 1.2 bar)	
		③ 0.04 ~ 0.2 MPa (0.4 ~ 2.0 bar)	
		④ 0.00 ~ 0.23 MPa (0 ~ 2.3 bar)	
Supply pressure	Standard	① 0.13 ~ 0.16 MPa (1.3 ~ 1.6 bar)	
	Multi-range	② 0.14 ~ 0.16 MPa (1.4 ~ 1.6 bar)	
		③ 0.22 ~ 0.24 MPa (2.2 ~ 2.4 bar)	
		④ 0.25 ~0.27 MPa (2.5 ~ 2.7 bar)	
Explosion protection type		ATEX, IECEx Ex ia IIC T5/T6 Gb, Ex ia IIIC T100°C/ T85°C Db	FM, CSA Class I Division 1 Groups A,B,C,D Class II, III Division 1 Groups E,F,G Class I Zone 1 AEx d IIC T6 Ta=-40°C to + 75°C, T5 Ta=-40°C to + 85°C, Type 4X, IP66 Zone 21 AEx tb IIIC T85°C Ta=-40°C to +75°C, T100°C Ta=-40°C to +85°C, Type 4X, IP66 KCs Ex d IIC T5/T6
Air consumption		Below 2 LPM (sup = 0.14 MPa) Below 0.08 CFM (sup = 20 psi)	
Flow capacity		70 LPM (sup = 0.14 MPa) 2.47 CFM (sup = 20 psi)	
Explosion temp.		-40 to +60 °C (T5) / -40 to +40 °C (T6)	-40 to +85 °C (T5) / -40 to +75 °C (T6)
Operating temp.		-40 to +85 °C (-22 to +185 °F)	
Linearity		±0.5% F.S.	
Hysteresis		±0.5% F.S.	
Sensitivity		±0.2% F.S.	
Repeatability		±0.3% F.S.	
Air connection		Rc ¼, ¼ NPT	
Conduit		G ½	
Ingress protection		IP66	Type 4X, IP66
Impedance		Max. 390Ω @20mA DC	Max. 390Ω @20mA DC
Material		Aluminium diecasting	
Weight		1.6 kg (3.53 lb)	2.5 kg (5.6 lb)



YT-930

YT-940



Product code

YT-930 - N - 1 - 1 - L - 0 - 0

Model

YT-930 = Intrinsically safety type
YT-940 = Flameproof type

Explosion protection

YT-930
N = Non-explosionproof
i = ATEX, IECEx

YT-940
C = KCs, FM, CSA

Output pressure

1 = 0.02 to 0.1 MPa
2 = 0.00 to 0.12 MPa
3 = 0.04 to 0.2 MPa
4 = 0.00 to 0.23 MPa

Conduit - air connection

1 = G 1/2 - Rc 1/4
2 = G 1/2 - 1/4 NPT

Operating temp. (non-explosionproof)¹

L = -40 to +85 °C (-40 to +185 °F)

Option

0 = None
1 = Feedback signal (4-20 mA DC)

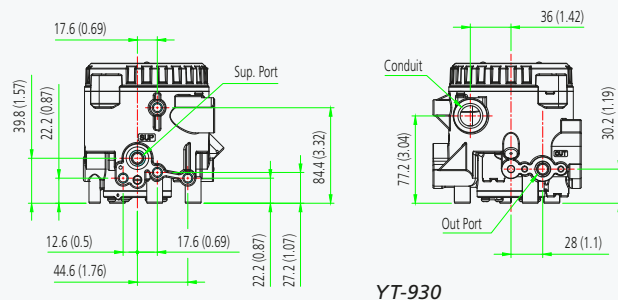
Gauge

0 = None
1² = 0 to 0.2 MPa
2³ = 0 to 0.4 MPa

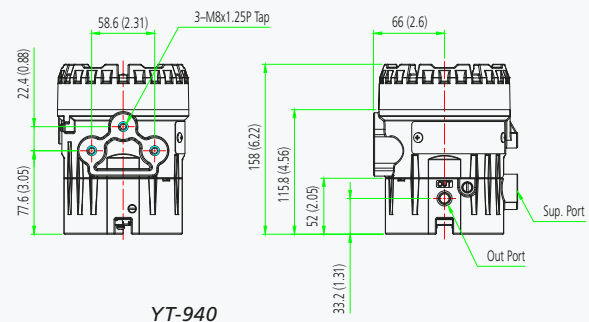
Notes:

1. This option is the normal operating temperature of the product and is not related to explosion protection temperature. See certificates for explosion protection temperature.
2. For 1 or 2 in output pressure option.
3. For 3 or 4 in output pressure option.

Dimensions: mm (Inches ")



YT-930



YT-940

Air Filter Regulators YT-200 / YT-205 / YT-220 / YT-225

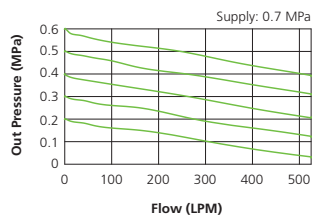
Design features

- **Stable Output and repeatability.** Provides constant control under variable flow rates and supply pressures.
- **Relief flow capability.** Discharges pressure if outer pressure is higher than set pressure.
- **Light weight and compact size.** Reduces installation costs.
- **5 micron filter.** Protects pneumatic instruments from dirty air.
- **Manual or Auto Draining Option**

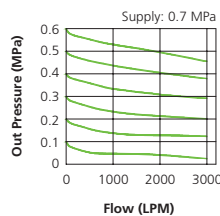


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YT-200 / YT-205 Flow (LPM)



YT-220 / YT-225 Flow (LPM)



Item Type	YT-200	YT-220	YT-205	YT-225
Max. Supply Pressure	1.7 MPa (17 bar)			
Max. Output Pressure	0.42 MPa (A Type), 0.84 MPa (B Type)			
Air Connection	PT (NPT) 1/4	PT (NPT) 1/2	NPT 1/4	NPT 1/2
Gauge Connection	PT (NPT) 1/4	PT (NPT) 1/4	NPT 1/4	NPT 1/4
Operating Temp.	-20 - 70°C (-4 - 158°F) (Standard type)			
Min. Filtering Size	5 micron			
Material	Aluminium Diecasting		Stainless Steel 316	
Weight	0.6 kg (1.7 lb)	0.86 kg (1.89 lb)	1.4 kg (3.0 lb)	2.1 kg (4.6 lb)

Product Code

YT-200 - A - N - 0 - 1 - 0

Model

YT-200 = Aluminum 1/4"
YT-205 = Stainless Steel 1/4"
YT-220 = Aluminum 1/2"
YT-225 = Stainless Steel 1/2"

Adjustable Range

A = 0 - 0.42 MPa
B = 0 - 0.84 MPa

Connection Type

P = PT
N = NPT

Gauge

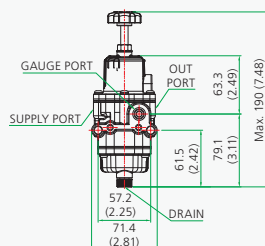
0 = None
1 = 0 - 0.4 MPa
2 = 0 - 1.0 MPa

Operating Temp.

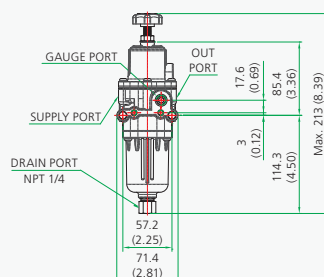
1 = -20 - 70 °C
2 = -20 - 120 °C
3 = -40 - 70 °C

Option

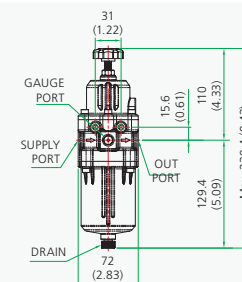
0 = Manual drain
1 = Auto drain



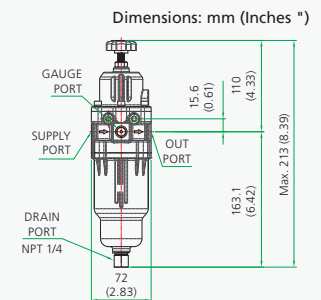
YT-200/205 Manual drain



YT-200/205 Auto drain



YT-220/225 Manual drain



YT-220/225 Auto drain

5 Connection – Power

5.1 Safety



- There is a conduit entry on the product. Conduit entry thread is G 1/2.
- Before connecting terminal, ensure that the power is off completely.
- Please use ring terminal to protect against vibration or any other external impact.
- YT-930 series should be grounded at outside of terminals or inside of the product.
- Please use twisted cable with conductor section are 1.25 mm² and that is suitable for 600 V (complying with the conductor table of NEC Article 310). The outer diameter of the cable should be between 6.35 ~ 10 mm. Use shield wire to protect against electro-magnetic field and noise.
- Please do not install the cable near high noise equipment, such as high-capacity transformer or motor. Please use shielded cable if necessary.
- **DO NOT connect Voltage source (9 ~ 28 V DC) to Input (4 ~ 20 mA DC) terminal (IN+, IN-) as it will cause PCB failure.**

5.2 Terminal Overview

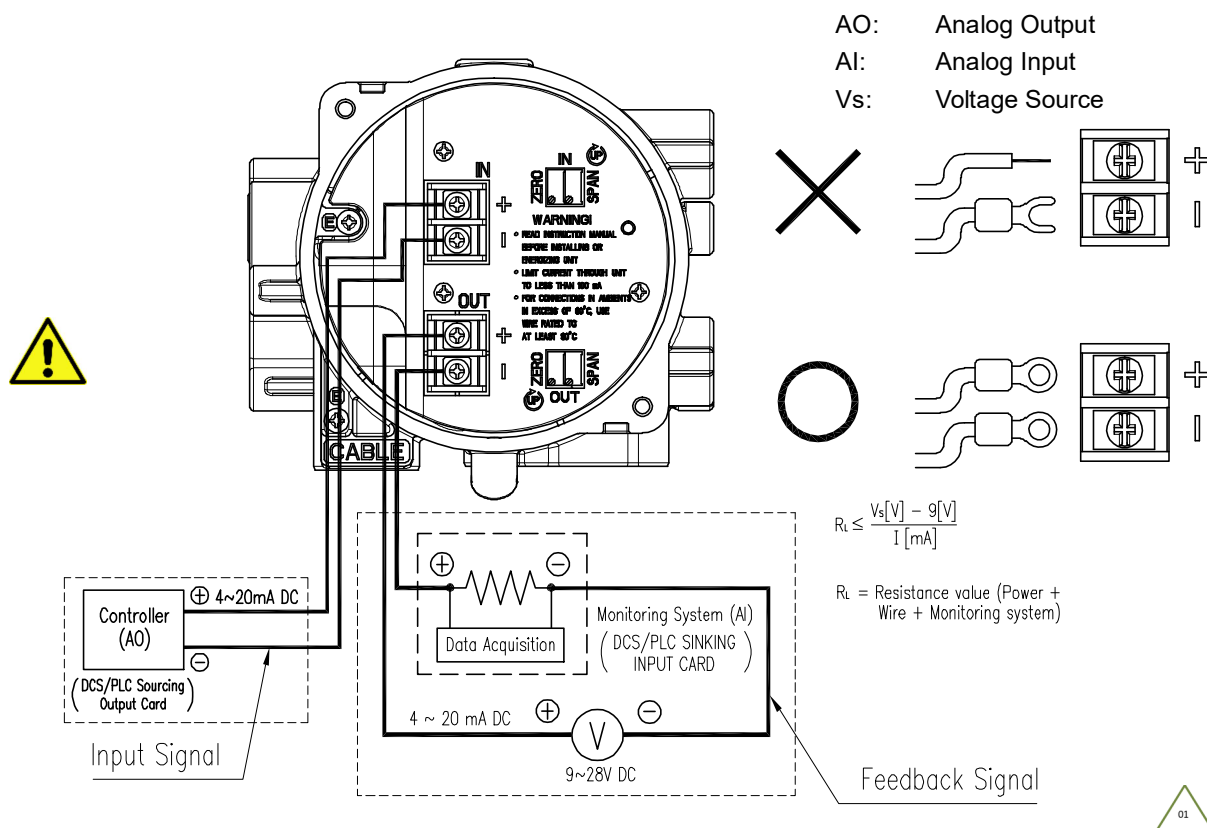


Fig. 5-1 Terminal Overview