

SP. NO.

Yamatake Corporation

製品仕様書 SPECIFICATIONS

1. GENERAL DESCRIPTION

IntellpaK IP50DBE/IP50DBC are designed to supply power to 2-wire type transmitter and transfer standard output signal (4~20mA) from transmitter to receiver directly or after converting to 1~5V signal.

Non-isolated (between input and output) type (IP50DBE) and isolated type (IP50DBC) are provided.

2. MODEL NUMBERING SYSTEM

1 2 3 4 5 6 7 8 9 10 11 12 13
I P 5 * * * * * * * * * * 0
 I II III IV V

I	II	III	IV	V	
Basic Model No.	Input Type	Output Type	Power Voltage	Additional Processing	
IP50DBE					Non-isolated type
	00				DC4~20mA 2-wire type transmitter (Supply current 30mA)
	01				DC4~20mA 2-wire type transmitter (Supply current 40mA)
			A		DC4~20mA (Output range depends on transmitter)
			H		DC1~5V (Output range depends on transmitter)
				A	AC100/110V/120V 50/60Hz
				B	AC200/220V/240V 50/60Hz
				D	DC24V
				0	None
				T	Tropical processing provided
				D	Test data are attached
				B	Tropical processing provided, and test data are attached
				Y	Calibration certificate available

I	II	III	IV	V	
Basic Model No.	Input Type	Output Type	Power Voltage	Additional Processing	
IP50DBC					Isolated type
	00				DC4~20mA 2-wire type transmitter (Supply current 30mA)
	01				DC4~20mA 2-wire type transmitter (Supply current 40mA)
			A		DC4~20mA (Output range: 0~ Approx. 26mA)
			H		DC1~5V (Output range: Approx. ±6.5V)
				A	AC100/110/120V 50/60Hz
				B	AC200/220/240V 50/60Hz
				D	DC24V
				0	None
				T	Tropical processing provided
				D	Test data are attached
				B	Tropical processing provided, and test data are attached
				Y	Calibration certificate available

9 01
 8 00
 7 00
 6 00
 5 00
 4 00
 3 00
 2 00
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作成 DR. I. Harada 9-7-'00		尺度 SCALE ~	記入のない公差 TOL. UNLESS NOTED ~
検図 CHK. Okazawa 9-7-'00	形番 MODEL	IP50DBE/DBC	
認可 APPD. Kiikuniya 9-7-'00	名称 NAME	Distributor	
改番 REV. 01	来歴 RECORD	日付 DATE 8-20-01	担当 BY Harada
改番 REV. 01	来歴 RECORD	日付 DATE 9-14-'00	検閲 APPD. Okazawa
No. AD13226E		改番 REV. 1/9	

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3. SPECIFICATIONS

Accuracy : $\pm 0.1\%FS$ (at reference temperature 23°C, isolated type)
 Response time : 25ms (90% response, isolated type)
 Zero and span adjustment : $\pm 10\%FS$ (isolated type)
 Temperature characteristics : $\pm 0.1\%FS/10^\circ C$ (isolated type)
 Influence of power supply voltage variance : $\pm 0.1\%FS$ (at operating conditions)

3.1 Input

Supply output voltage : $24 \pm 1V$
 Supply current : 30mA(00)
 40mA(01)

3.2 Output

Output type : DC4~20mA or DC1~5V
 The number of outputs : 2
 Output impedance (DC4~20mA) : Depends on transmitter connected (non-isolated type)
 : 5M Ω min. (isolated type)
 Output impedance (DC1~5V) : 250 $\Omega \pm 0.1\%$ (non-isolated type)
 : 0.1 Ω max. (isolated type)
 Allowable load resistance (DC4~20mA) : Depends on transmitter connected (non-isolated type)
 : 750 Ω max. (isolated type)
 Allowable load resistance (DC1~5V) : 500k Ω min. (non-isolated type)
 : 2.5k Ω min. (isolated type)

4. ENVIRONMENTAL CONDITIONS

4.1 Reference Operating Conditions

Ambient temperature : $23 \pm 2^\circ C$
 Ambient humidity : $60 \pm 5\%RH$ (Non-condensing)
 Power supply voltage : AC100/110/120V $\pm 1\%$
 AC200/220/240V $\pm 1\%$
 DC24V $\pm 1\%$
 Power supply frequency : 50Hz $\pm 1Hz$ (at 50Hz power supply)
 60Hz $\pm 1Hz$ (at 60Hz power supply)
 Vibration : 0m/s²
 Shock : 0m/s²
 Mounting angle : $\pm 3^\circ$ from the reference plane

作成 DR. I. Harada 9-7-'00 尺度 SCALE 記入のない公差 TOL. UNLESS NOTED

検図 CHK. Okazawa 9-7-'00 形番 MODE IP50DBE/DBC

認可 KiiKuniya 9-7-'00 名称 NAME Distributor

日付 DATE 9-14-'00 図番 No. AD13226E

改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	改番 00	2/9
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- 4.2 Operating Conditions
- Ambient temperature : -5~+55°C
 - Ambient humidity : 90%RH max. (Non-condensing)
 - Power supply voltage : AC80~132V(AC100/110/120V)
AC170~264V(AC200/220/240V)
DC24V±10%
 - Power supply frequency : 45~65Hz
 - Vibration resistance : 0~2m/s² 10 ~ 60Hz in X, Y and Z directions for 2 hours each
(with a vibration absorbing bracket, except DIN rail mounting)
 - Shock resistance : 0~9.8m/s² (except DIN rail mounting)
 - Mounting angle : ±10° from the reference plane
- 4.3 Shipping/Storage Conditions
- Ambient temperature : -20~+70°C
 - Ambient humidity : 90%RH max. (Non-condensing)
 - Vibration resistance : 0~4.9m/s² 10 ~ 60Hz in X, Y and Z directions for 2 hours each
(with a vibration absorbing bracket, except DIN rail mounting)
 - Shock resistance : 0~490m/s²
3 times each in vertical direction (except DIN rail mounting)
 - Shipping drop : Drop height; 60cm
(1 corner and 3 edges radiating from the corner and all 6 sides free drop)
- 4.4 Others
- Power consumption : Approx. 5.0VA (AC power supply, non-isolated type)
Approx. 6.0VA (AC power supply, isolated type)
Approx. 2.6VA (DC power supply)
 - Inrush current at application of power supply : 10A max., 1ms (AC power supply)
5A max., 1ms (DC power supply)
 - Insulation resistance : Higher than 100M Ω by a 500V DC megger between input/output terminals and power terminals and also between mutual input/output terminals (Isolated type)
 - Dielectric strength : 2000VAC, 1 min. between input/output terminals and power terminals and also between mutual input/output terminals (Isolated type)
 - Case material : Heat-resistant ABS resin
 - Case color : Gray, Munsell code 2.5PB3.5/1
 - Wiring terminal screw : M3.5
 - Tightening torque : 0.78~0.98N·m
 - Installation : Installed on a wall or DIN rails
 - Mass : Approx. 200g
 - Accessory : Base socket (QN719A)
 - Optional parts : Vibration-absorbing bracket (QN718A)
Current-check diode (81404381-001)
250Ω resistor for 1~5V conversion (81404382-001)

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認可 Kikuniya 9-7-'00	名称 NAME	Distributor	
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9-14-'00			
検閱 APPD.	日付 DATE	図番 No.	改番 REV.
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5. BLOCK DIAGRAM

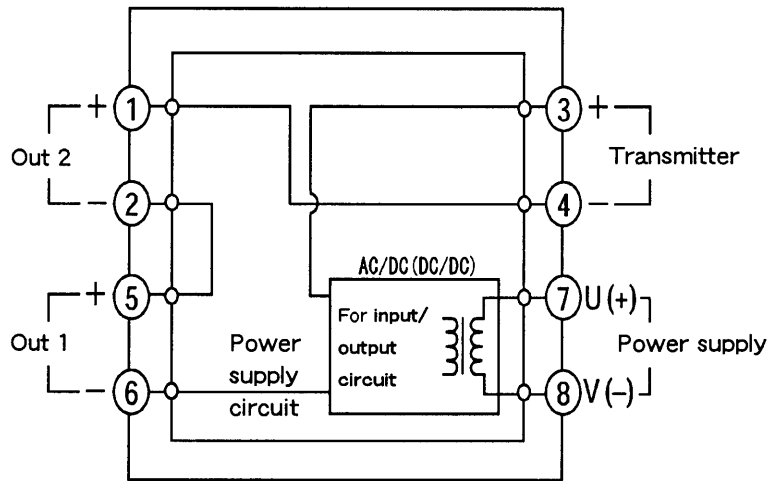


Fig. 5-1 IP50DBE (Non-isolated type, current output)

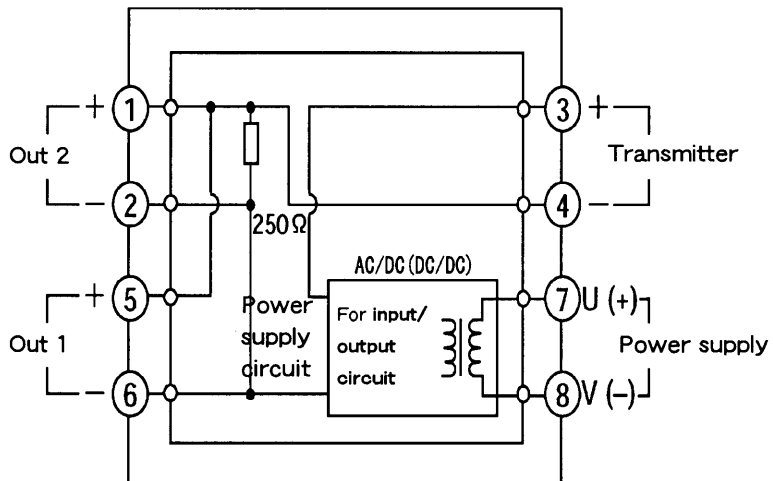


Fig. 5-2 IP50DBE (Non-isolated type, voltage output)

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					検図 CHK. Okazawa 9-7-'00		形番 MODE	IP50DBE/DBC
					認可 Kiikuniya 9-7-'00		名称 NAME	Distributor
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改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	日付 DATE 9-14-'00	改番 00	4/9	

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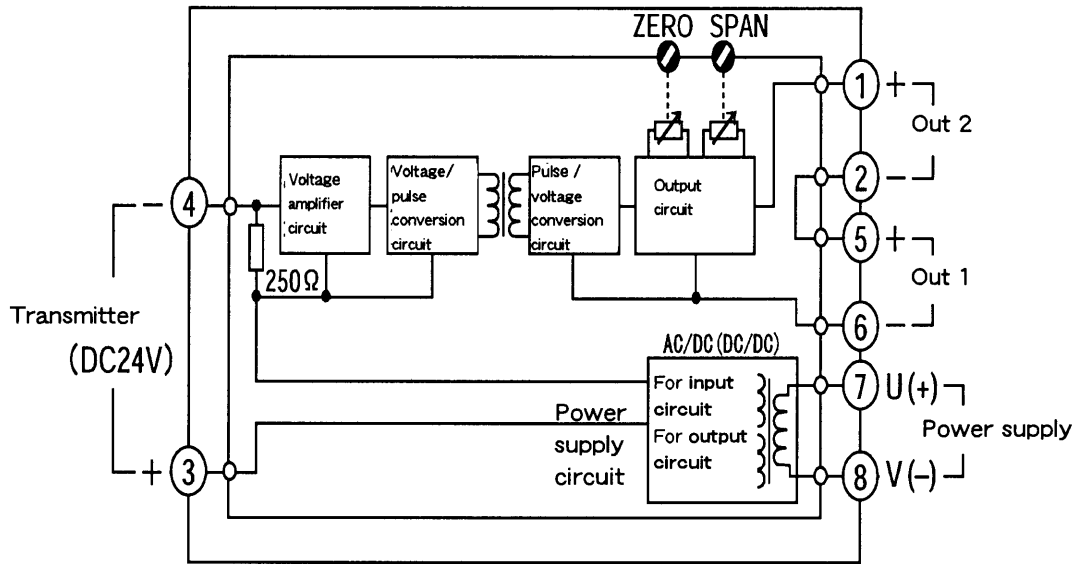


Fig. 5-3 IP50DBC (Isolated type, current output)

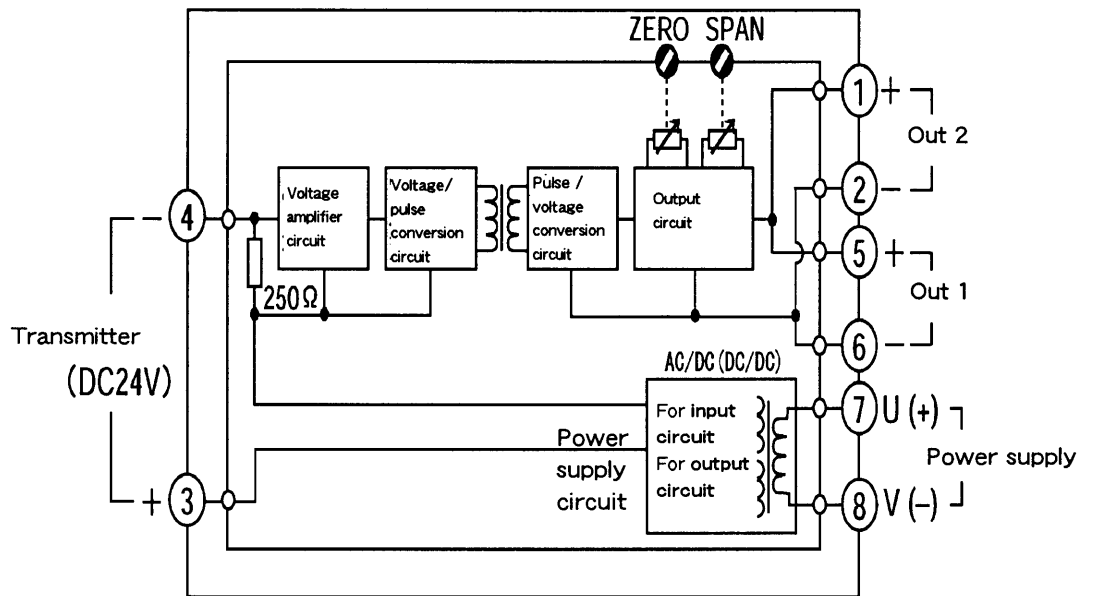


Fig. 5-4 IP50DBC (Isolated type, voltage output)

作成 DR. I. Harada 9-7-'00	検図 CHK. Okazawa 9-7-'00	認可 Kiikuniya 9-7-'00	日付 DATE 9-14-'00	尺度 SCALE 記入のない公差 TOL. UNLESS NOTED ~
形番 MODE		IP50DBE/DBC		
名称 NAME		Distributor		
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.
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6. WIRING

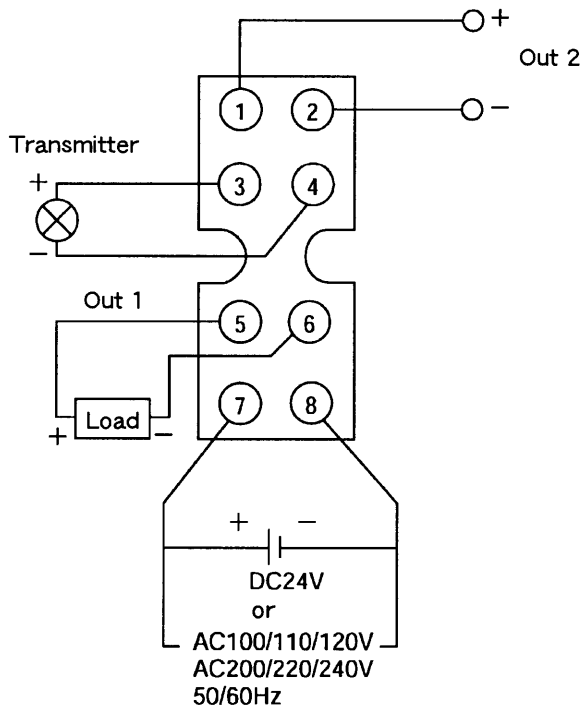


Fig. 6-1 Wiring

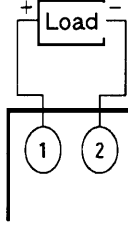
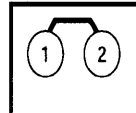
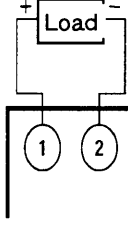
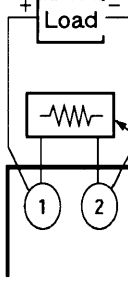
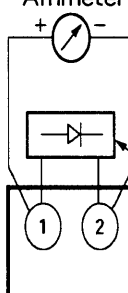
Table 6-1 Terminal arrangement

Terminal No.	Connection	Contents
1	Output 2 +	Refer to Table 6-2 based on the application. Signal is delivered per input/output specifications.
2	Output 2 -	
3	Input +	Connect signal from transmitter.
4	Input -	
5	Output 1 +	Signal is delivered per input/output specifications.
6	Output 1 -	
7	Power supply +	Supply rated voltage.
8	Power supply -	

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Table 6-2 Wiring depends on type of application

Output type	Connections
H (1~5V output)	 <p>No.2 output 1~5V Keep 1, 2 open when No.2 output is not used.</p>
When No.2 output is not used.	<p>Attachment: A short bar</p> 
When No.2 output of 4~20mA is used.	 <p>No.2 output 4~20mA</p>
(4~20mA output) A When No.2 output of 1~5V is used.	 <p>No.2 output 1~5V 250Ω resistor (81404382-001) (Option)</p>
When No.2 output is used for checking output current.	<p>Ammeter</p>  <p>Current check diode (81404381-001) (Option)</p>

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I. Harada 9-7-'00

検図 CHK. 形番 MODE IP50DBE/DBC
Okazawa 9-7-'00

認可 名称 NAME Distributor
Kiikuniya 9-7-'00

日付 DATE 函番 No. AD13226E
9-14-'00

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7. INSTALLATION

Socket can be mounted directly or through DIN rail. Following drawing shows direct mounting by screws.

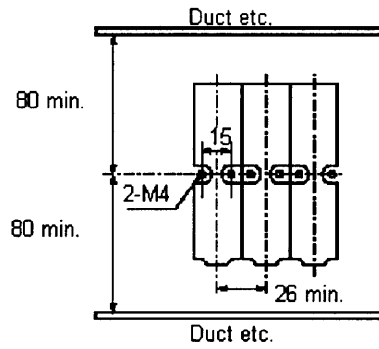


Fig. 7-1 Lateral installation and vertical space required

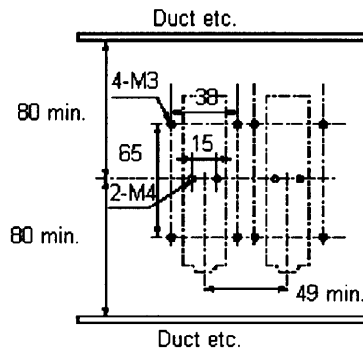



Fig. 7-2 Installation on vibration-absorbing bracket and vertical space required

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				認可 Kiikuniya 9-7-'00		名称 NAME Distributor	
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	日付 DATE 9-14-'00	図番 No. AD13226E	改番 00
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“RESTRICTIONS ON USE”

This product has been designed, developed and manufactured for general-purpose application in machinery and equipment.

Accordingly, when used in applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- Safety devices for plant worker protection
- Start/stop control devices for transportation and material handling machines
- Aeronautical/aerospace machines
- Control devices for nuclear reactors

Never use this product in applications where human safety may be put at risk.

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