

SP. NO.

Yamatake Corporation

製品仕様書
SPECIFICATIONS

1. GENERAL DESCRIPTION:

This converter delivers DC voltage or DC current output proportional to DC voltage or DC current input.
Output circuit is isolated from input and regarding response time, standard type (IP50DCS) and high-speed type (IP50DCE) 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	Contents
Basic Model No.	Input Type	Output Type	Power Voltage	Additional Processing	
IP50DCS					Standard type
IP50DCE					High-speed type
	Table 2-1				
		Table 2-2			
			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

8 02

7 00

6 01

5 01

4 01

3 01

2 00

頁 改番

02	JE001-0599	8-20-01	Harada	Okazawa
01	JE000-0667	8-24-00	Harada	Okazawa
改番 REV.	来 歴 RECORD	: 日 付 DATE	担 当 BY	検 閲 APPD.

作成 DR. M.Saito		尺度 SCALE ~	記入のない公差 TOL. UNLESS NOTED ~
検図 CHK. U.Date	形 番 MODEL	IP50DCS/DCE	
認可 APPD. Kiikyniya	名 称 NAME	DC Signal Isolator	
日付 DATE 7-14-99	図 番 No.	AD12769E	改番 REV. 1/8

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Table 2-1 Input

Type No.	Input Type	Input Impedance	Type No.	Input Type	Input Impedance
10	0 ~ 10 mV	1 M Ω	30	0~10 μ A	1 k Ω
11	0 ~ 100 mV	1 M Ω	31	0~100 μ A	100 Ω
12	0 ~ 1 V	1 M Ω	32	0~1 mA	100 Ω
13	0 ~ 5 V	1 M Ω	33	0~10 mA	50 Ω
14	1 ~ 5 V	1 M Ω	34	0~16 mA	50 Ω
15	0 ~ 10 V	1 M Ω	35	0~20 mA	50 Ω
16	0 ~ 50 mV	1 M Ω	36	4~20 mA	50 Ω
17	0 ~ 60 mV	1 M Ω	40	-1~1 mA	100 Ω
18	0 ~ 30 V	1 M Ω	41	-20~20 mA	50 Ω
19	0 ~ 50 V	1 M Ω			
20	-10 ~10 mV	1 M Ω			
21	-50 ~ 50 mV	1 M Ω			
22	-100 ~ 100 mV	1 M Ω			
23	-1 ~ 1 V	1 M Ω			
24	-5 ~ 5 V	1 M Ω			
25	-10 ~ 10 V	1 M Ω			

Table 2-2 Output

Type No.	Output Type	Allowable Load Resistance	Output Range
A	4~20 mA	750 Ω max.	0 ~ Approx. 25 mA
B	1~5 mA	3 k Ω max.	0 ~ Approx. 6.5 mA
C	2~10 mA	1.5 k Ω max.	0 ~ Approx. 13 mA
D	0~1 mA	15 k Ω max.	0 ~ Approx. 1.3 mA
E	0~10 mA	1.5 k Ω max.	0 ~ Approx. 13 mA
F	0~16 mA	937 Ω max.	0 ~ Approx. 20 mA
G	0~20 mA	750 Ω max.	0 ~ Approx. 25 mA
H	1~5 V	2.5 k Ω min.	Approx. \pm 6.5 V
J	0~10 mV	10 k Ω min.	Approx. \pm 13 mV
K	0~100 mV	100 k Ω min.	Approx. \pm 130 mV
L	0~1 V	500 Ω min.	Approx. \pm 1.3 V
N	0~5 V	2.5 k Ω min.	Approx. \pm 6.5 V
P	0~10 V	5 k Ω min.	Approx. \pm 13 V
R	-10~10 V	5 k Ω min.	Approx. \pm 13 V

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横図 CHK. U.Date	形番 MODE	IP50DCS/DCE							
認可 Kiiyuniya	名称 NAME	DC Signal Isolator							
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	日付 DATE 7-14-99	図番 No.	AD12769E	改番 00	2/8

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4. ENVIRONMENTAL CONDITIONS :

4.1 Reference Operating Conditions

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

4.2 Operating Conditions

- Ambient temperature : -5 to +55℃
- Ambient humidity : 90%RH max. (Non-condensing)
- Power supply voltage : AC80 to 132V
AC170 to 264V
DC24V±10%
- Power supply frequency : 45 to 65Hz
- Vibration resistance : 0 to 2m/s² 10 to 60Hz in X, Y and Z directions for 2 hours each
(with a vibration absorbing bracket, except DIN rail mounting)
- Shock resistance : 0 to 9.8m/s² (except DIN rail mounting)
- Mounting angle : ±10° from the reference plane

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検図CHK. U.Date	形番 MODE	IP50DCS/DCE	
認可 Kiikyniya	名称 NAME	DC Signal Isolator	
改番 REV.	来歴 RECORD	日付 DATE	担当 BY
7-14-99	AD12769E	検閲 APPD.	改番 01
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- 4.3 Shipping/Storage Conditions
- Ambient temperature : -20 to +70°C
 - Ambient humidity : 90%RH max.(Non-condensing)
 - Vibration resistance : 0 to 4.9m/s² 10 to 60Hz in X, Y and Z directions for 2 hours each (with a vibration absorbing bracket, except DIN rail mounting)
 - Shock resistance : 0 to 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. 4.5VA (AC power supply)
Approx. 2.2VA (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
 - Dielectric strength : 2000V AC, 1min. between input/output terminals and power terminals and also between mutual input/output terminals
 - Case material : Heat-resistant ABS resin
 - Case color : Gray, Munsell code 2.5PB3.5/1
 - Wiring terminal screw : M3.5
 - Tightening torque : 0.78 to 0.98N·m
 - Installation : Installed on a wall or DIN rails
 - Weight(Mass) : Approx. 200g
 - Accessory : Base socket (QN719A)
 - Option : Vibration-absorbing bracket (QN718A)

5. CIRCUIT BLOCK DIAGRAM:

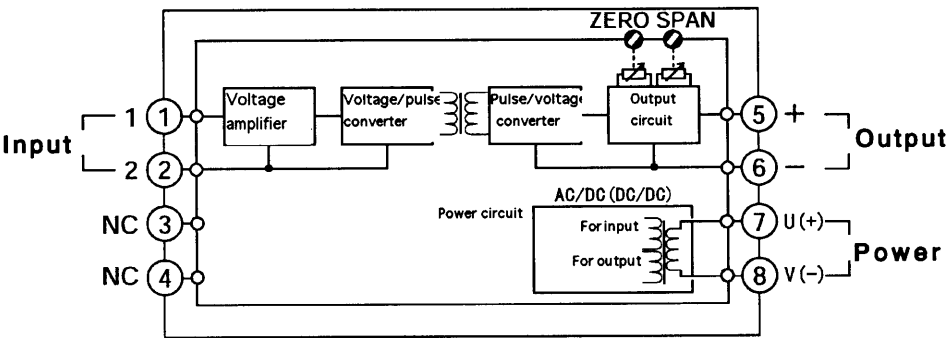


Fig. 5-1 IP50DCS/DCE (Isolated)

					作成 DR. M.Saito	⊕ ⊖	尺度 SCALE 記入のない公差 TOL. UNLESS NOTED ~ ~
					検図 CHK. U.Date	形番 MODE	IP50DCS/DCE
					認可 Kiikyuniya	名称 NAME	DC Signal Isolator
01	JEO00-0667	8-24-00	Harada	Okazawa	日付 DATE 7-14-99	図番 No.	AD12769E
改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	改番 01	5/8	

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6. WIRING

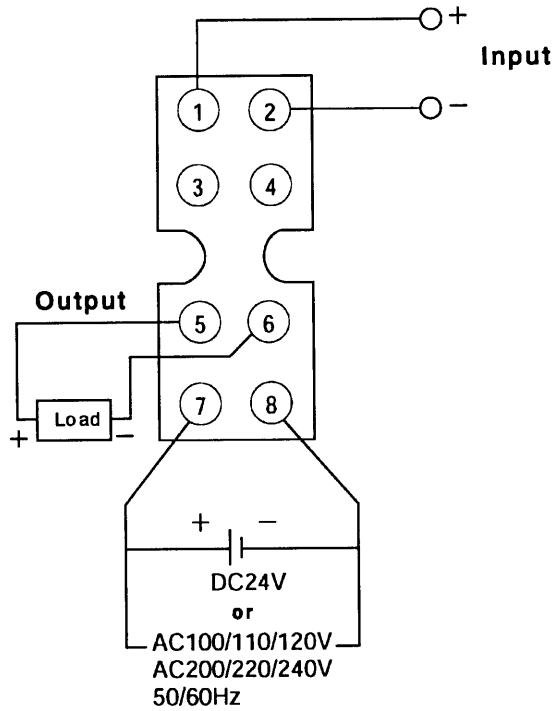


Fig. 6-1 Wiring

Table 6-1 Terminal arrangement

Terminal No.	Connection	Contents
1	Input +	Connect the specified input signal.
2	Input -	
3		Unused (Do not connect any signals)
4		
5	Output +	Signal is delivered per input/output specifications.
6	Output -	
7	Power supply +	Connect the power supply of the rated voltage.
8	Power supply -	

作成 DR.	M.Saito	⊕	尺度 SCALE	記入のない公差 TOL. UNLESS NOTED	~	~
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認可	名称	DC Signal Isolator				
01	JEO00-0667	8-24-00	Harada	Okazawa	日付 DATE	7-14-99
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7. INSTALLATION:

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

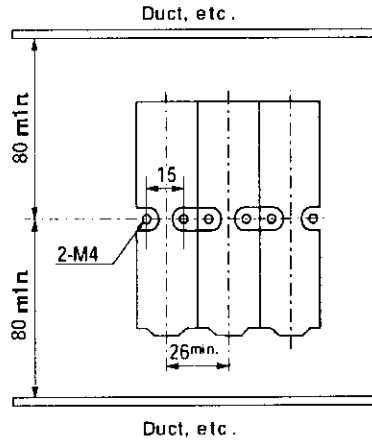


Fig. 7-1 Lateral installation and vertical space required

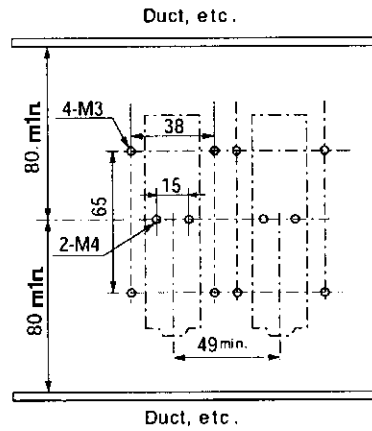


Fig. 7-2 Installation on vibration-absorbing bracket and vertical space required

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8. External Dimension

Fig.8-1 Body and Base Socket

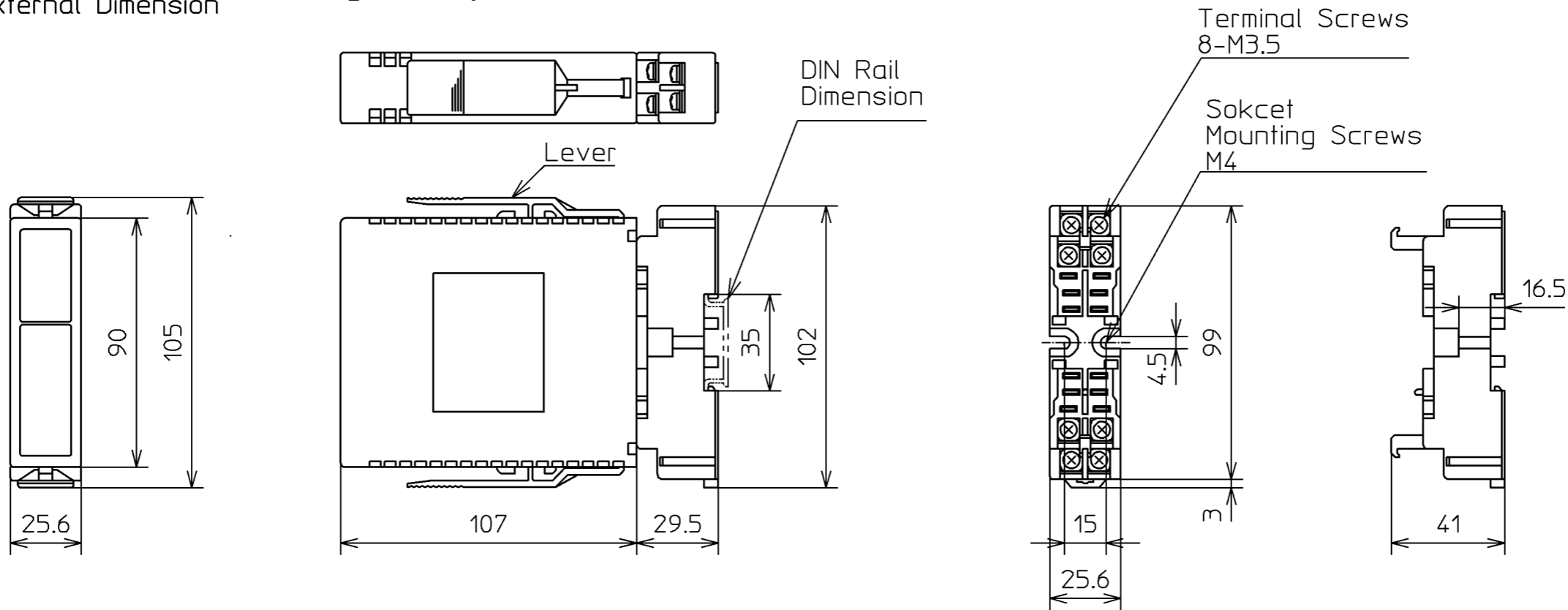
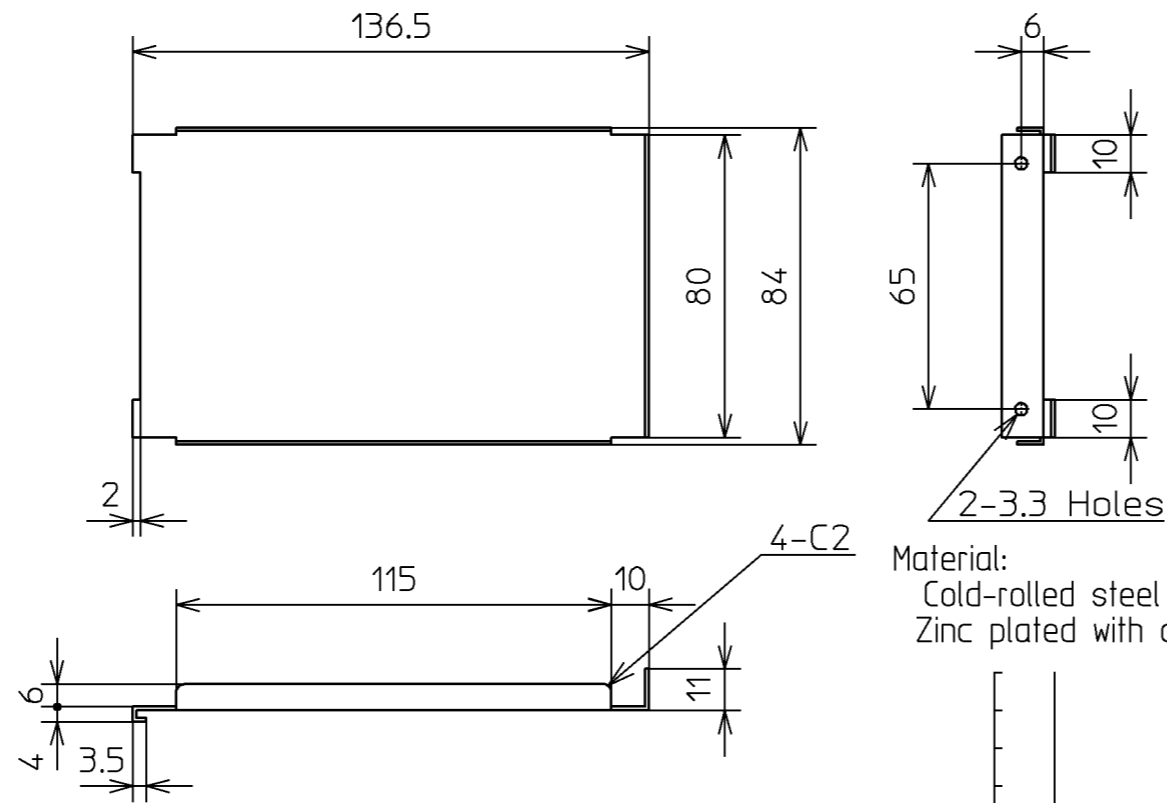
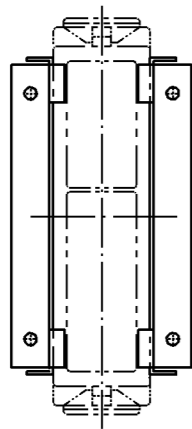


Fig.8-2 Vibration-absorbing Bracket

When installed
(Reference)



Material:
Cold-rolled steel plate SPCC t1
Zinc plated with chromate treatment

作成DR. I.Harada	検図CHK. M.Ogido	認可APPD M.Ogido	日付DATE 8-20-01	担当 I.Harada	検閲 M.Ogido	尺度SCALE 1:2	記入のない公差 TOL. UNLESS NOTED
形番 MODEL		名称 NAME		図番 NO.		改番REV. 8/8	
IP50DCS/DCE		DC Signal Isolator		AD12769E		02	

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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.

1	00	00	First issue	12-2-02	Harada	Miura
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