



### ■OUTPUT CODE: Code and logic are user-selectable.

BCD with polarity  
Binary with polarity  
Offset binary  
Two's complement  
Reflected binary

**Connector:** 26-pin connector (OMRON XG4A-2634)

**Paired connector:** OMRON XG4M-2630-T,  
XG5M-263□-N

**Cover:** OMRON XG5S-2612

### ■OUTPUT LEVEL

#### •Open Collector

**Maximum collector-emitter voltage:** 30V DC

**Maximum collector current:** 30mA

**Saturation voltage:**  $\leq 1.1V$

**Common:** Negative

#### •CMOS Level

**H output:**  $\geq 4.5V$  DC

**L output:**  $\leq 0.5V$  DC

**Common:** Negative

**POL output (Polarity):** Same logic and level as for the output code; logic user-selectable

**OVF output (Overflow):** Same logic and level as for the output code; logic user-selectable

**DAV output (Data available):** Same level as for the output code; logic user-selectable

## INSTALLATION

### Power input

**AC:** Operational voltage range 85 – 264V;  
47 – 66 Hz, approx. 10VA

**DC:** Operational voltage range for R3: 10.8 – 26.4V or P: 85 – 150V; ripple 10% p-p max.; approx. 4W (160mA at 24V)

**Operating temperature:** -5 to +55°C (23 to 131°F)

**Operating humidity:** 30 to 90% RH (non-condensing)

**Mounting:** Surface or DIN rail

**Dimensions:** W50×H80×D139 mm (1.97"×3.15"×5.47")

**Weight:** 450 g (0.99 lbs)

**Terminal assignment:** See General Spec. Sheet Figure B-2.

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1\%$

**Temp. coefficient:**  $\pm 0.015\%/^{\circ}C$  ( $\pm 0.008\%/^{\circ}F$ )

**Resolution:** 16 bits

**Response time:** 0.15 – 60 seconds (0 – 90%) programmable at ITEM 19.

**Line voltage effect:**  $\pm 0.1\%$  over voltage range

**Insulation resistance:**  $\geq 100M\Omega$  with 500V DC

**Dielectric strength:** 2000V AC @1 minute

(input to output to power)

2000V AC @1 minute

(input or output or power to ground)

## STANDARDS & APPROVALS

**CE conformity:** EMC Directive (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

Low Voltage Directive (73/23/EEC)

Installation category II

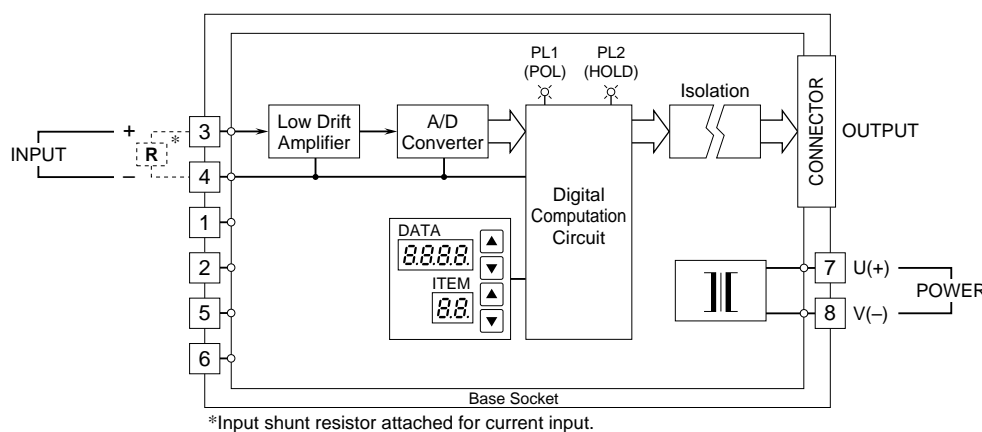
Pollution degree 2

Max. operating voltage 300V

Input or output to power – Reinforced insulation

Input to output – Basic insulation

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



## OUTPUT CONNECTOR (26-pin)

### BCD OUTPUT

PIN NO.	ASSIGNMENT	PIN NO.	ASSIGNMENT
1	$1 \times 10^0$	17	COM (-)
2	$2 \times 10^0$	18	COM (-)
3	$4 \times 10^0$	19	OVF
4	$8 \times 10^0$	20	POL
5	$1 \times 10^1$	21	DAV
6	$2 \times 10^1$	22	HOLD* <sup>1</sup>
7	$4 \times 10^1$	23	P <sup>0</sup> * <sup>2</sup>
8	$8 \times 10^1$	24	P <sup>1</sup>
9	$1 \times 10^2$	25	P <sup>2</sup>
10	$2 \times 10^2$	26	P <sup>3</sup>
11	$4 \times 10^2$		
12	$8 \times 10^2$		
13	$1 \times 10^3$		
14	$2 \times 10^3$		
15	$4 \times 10^3$		
16	$8 \times 10^3$		

\*1. HOLD signal is for input, the others are for output.  
 \*2. P<sup>0</sup> corresponds to  $n \times 10^0$ , P<sup>1</sup> to  $n \times 10^1$ , P<sup>2</sup> to  $n \times 10^2$ , P<sup>3</sup> to  $n \times 10^3$ .

Note: With the number of bits set to 14 (or 12, 10, 8) with ITEM 10, Pin No. 1 – 14 (or 1 – 12, 1 – 10, 1 – 8) are valid.

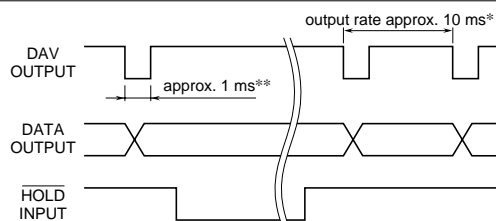
### BINARY, TWO'S COMPLEMENT OUTPUTS

PIN NO.	ASSIGNMENT	PIN NO.	ASSIGNMENT
1	B <sup>0</sup>	17	COM (-)
2	B <sup>1</sup>	18	COM (-)
3	B <sup>2</sup>	19	OVF
4	B <sup>3</sup>	20	POL
5	B <sup>4</sup>	21	DAV
6	B <sup>5</sup>	22	HOLD* <sup>1</sup>
7	B <sup>6</sup>	23	P <sup>0</sup> * <sup>2</sup>
8	B <sup>7</sup>	24	P <sup>1</sup>
9	B <sup>8</sup>	25	P <sup>2</sup>
10	B <sup>9</sup>	26	P <sup>3</sup>
11	B <sup>10</sup>		
12	B <sup>11</sup>		
13	B <sup>12</sup>		
14	B <sup>13</sup>		
15	B <sup>14</sup>		
16	B <sup>15</sup>		

\*1. HOLD signal is for input, the others are for output.  
 \*2. P<sup>0</sup> corresponds to B<sup>0</sup> through B<sup>3</sup>, P<sup>1</sup> to B<sup>4</sup> through B<sup>7</sup>, P<sup>2</sup> to B<sup>8</sup> through B<sup>11</sup>, P<sup>3</sup> to B<sup>12</sup> through B<sup>15</sup>.

Note: With the number of bits set to 14 (or 12, 10, 8) with ITEM 10, Pin No. 1 – 14 (or 1 – 12, 1 – 10, 1 – 8) are valid.

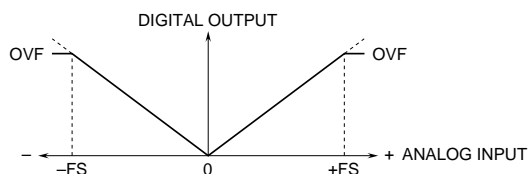
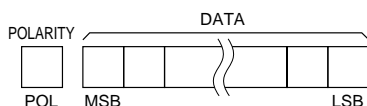
### TIMING CHART



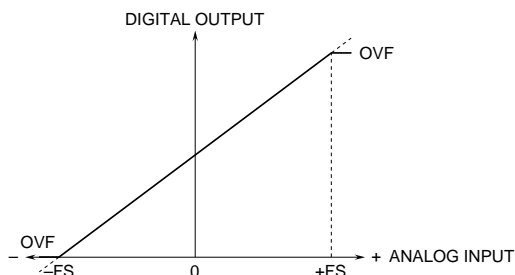
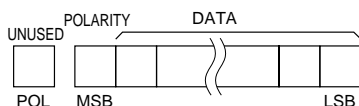
Data output is halt during HOLD input.  
 DAV is output during DATA output.  
 \* Varies by individual module. Set to 'n' times with ITEM 20.  
 \*\*Selectable with ITEM 17.

### INPUT-OUTPUT RELATION EXAMPLES

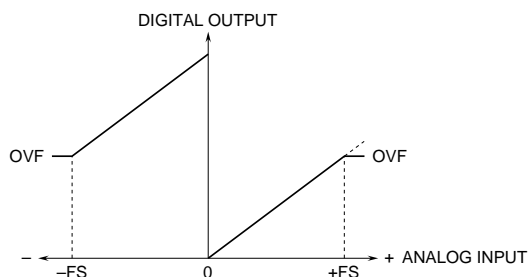
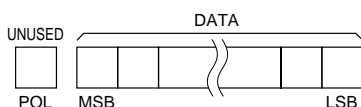
#### BCD, BINARY (WITH POLARITY)



#### OFFSET BINARY



#### TWO'S COMPLEMENT



## OUTPUT DATA & PARITY BIT RELATIONSHIP

Hi and Lo indicate the voltage level. Parity logic is unchanged.

### ■OPEN COLLECTOR

#### •Positive Logic I14 : 1, Lo : False, Hi: True

DATA	8	4	2	1	PARITY	
					Even I12 : 0	Odd I12 : 1
0	Lo	Lo	Lo	Lo	Lo	Hi
1	Lo	Lo	Lo	Hi	Hi	Lo
2	Lo	Lo	Hi	Lo	Hi	Lo
3	Lo	Lo	Hi	Hi	Lo	Hi
4	Lo	Hi	Lo	Lo	Hi	Lo
5	Lo	Hi	Lo	Hi	Lo	Hi
6	Lo	Hi	Hi	Lo	Lo	Hi
7	Lo	Hi	Hi	Hi	Hi	Lo
8	Hi	Lo	Lo	Lo	Hi	Lo
9	Hi	Lo	Lo	Hi	Lo	Hi
10	Hi	Lo	Hi	Lo	Lo	Hi
11	Hi	Lo	Hi	Hi	Hi	Lo
12	Hi	Hi	Lo	Lo	Lo	Hi
13	Hi	Hi	Lo	Hi	Hi	Lo
14	Hi	Hi	Hi	Lo	Hi	Lo
15	Hi	Hi	Hi	Hi	Lo	Hi

#### •Negative Logic I14 : 0, Lo : True, Hi: False

DATA	8	4	2	1	PARITY	
					Even I12 : 0	Odd I12 : 1
0	Hi	Hi	Hi	Hi	Lo	Hi
1	Hi	Hi	Hi	Lo	Hi	Lo
2	Hi	Hi	Lo	Hi	Hi	Lo
3	Hi	Hi	Lo	Lo	Lo	Hi
4	Hi	Lo	Hi	Hi	Hi	Lo
5	Hi	Lo	Hi	Lo	Lo	Hi
6	Hi	Lo	Lo	Hi	Lo	Hi
7	Hi	Lo	Lo	Lo	Hi	Lo
8	Lo	Hi	Hi	Hi	Hi	Lo
9	Lo	Hi	Hi	Lo	Lo	Hi
10	Lo	Hi	Lo	Hi	Lo	Hi
11	Lo	Hi	Lo	Lo	Hi	Lo
12	Lo	Lo	Hi	Hi	Lo	Hi
13	Lo	Lo	Hi	Lo	Hi	Lo
14	Lo	Lo	Lo	Hi	Hi	Lo
15	Lo	Lo	Lo	Lo	Lo	Hi

### ■CMOS

#### •Positive Logic I14 : 0, Lo : False, Hi: True

DATA	8	4	2	1	PARITY	
					Even I12 : 0	Odd I12 : 1
0	Lo	Lo	Lo	Lo	Hi	Lo
1	Lo	Lo	Lo	Hi	Lo	Hi
2	Lo	Lo	Hi	Lo	Lo	Hi
3	Lo	Lo	Hi	Hi	Hi	Lo
4	Lo	Hi	Lo	Lo	Lo	Hi
5	Lo	Hi	Lo	Hi	Hi	Lo
6	Lo	Hi	Hi	Lo	Hi	Lo
7	Lo	Hi	Hi	Hi	Lo	Hi
8	Hi	Lo	Lo	Lo	Lo	Hi
9	Hi	Lo	Lo	Hi	Hi	Lo
10	Hi	Lo	Hi	Lo	Hi	Lo
11	Hi	Lo	Hi	Hi	Lo	Hi
12	Hi	Hi	Lo	Lo	Hi	Lo
13	Hi	Hi	Lo	Hi	Lo	Hi
14	Hi	Hi	Hi	Lo	Lo	Hi
15	Hi	Hi	Hi	Hi	Hi	Lo

#### •Negative Logic I14 : 1, Lo : True, Hi: False

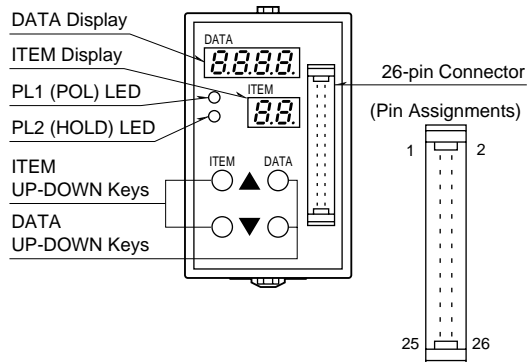
DATA	8	4	2	1	PARITY	
					Even I12 : 0	Odd I12 : 1
0	Hi	Hi	Hi	Hi	Hi	Lo
1	Hi	Hi	Hi	Lo	Lo	Hi
2	Hi	Hi	Lo	Hi	Lo	Hi
3	Hi	Hi	Lo	Lo	Hi	Lo
4	Hi	Lo	Hi	Hi	Lo	Hi
5	Hi	Lo	Hi	Lo	Hi	Lo
6	Hi	Lo	Lo	Hi	Hi	Lo
7	Hi	Lo	Lo	Lo	Lo	Hi
8	Lo	Hi	Hi	Hi	Lo	Hi
9	Lo	Hi	Hi	Lo	Hi	Lo
10	Lo	Hi	Lo	Hi	Hi	Lo
11	Lo	Hi	Lo	Lo	Lo	Hi
12	Lo	Lo	Hi	Hi	Hi	Lo
13	Lo	Lo	Hi	Lo	Lo	Hi
14	Lo	Lo	Lo	Hi	Lo	Hi
15	Lo	Lo	Lo	Lo	Hi	Lo

## FRONT PANEL CONFIGURATION & PROGRAMMING

### PROGRAMMING PROCEDURE

1. Press ITEM UP or DOWN key until ITEM display indicates "01".
2. Press DATA UP or DOWN key and choose "2" on DATA display.
  - 1 : Data indication only.
  - 2 : All parameters are modifiable.
3. Press ITEM UP or DOWN key until ITEM display shows the ITEM No. you need to change.
4. Press DATA UP or DOWN key and choose a DATA No. or value you need on DATA display.
5. Repeat above 3 and 4. (Entered data is stored when you move to a new ITEM.)
6. Press ITEM UP or DOWN key until ITEM display indicates "01".
7. Press DATA UP or DOWN key and choose "1" on the display.
8. Press ITEM UP or DOWN key until ITEM display indicates "P". DATA display shows process input. You can now check data setting by choosing ITEM No.

Note : DO NOT press UP and DOWN keys simultaneously.



ITEM	MDF. CODE	DATA	CONTENTS	DEFAULT
P/L	N/A	-9999 – 9999 (-FFFF – FFFF)	Output display in engineering unit with ITEM 01 DATA 1 (as set in ITEM 06/07) Loop test output with ITEM 01 DATA 2 ('L' is indicated as ITEM No.) BCD or binary (with polarity), offset binary, two's complement, reflected binary	—
01		1, 2, 3	Modification code 1 : Data indication only. 2 : All parameters are modifiable. 3 : Only ITEM 24 is modifiable.	1
02	N/A	0 – 99	Status indication ("0" is normally indicated.) 0: Normal 1: Memory error 10: Out of input range -15 – 115%	0
03	N/A	-15.0 – 115.0	Input indicated in % (of the range set in ITEM 22/23)	—
04	2	-99.99 – 99.99	Zero adjustment (%) (fine adj. of the value set in ITEM 22)	0.00
05	2	-99.99 – 99.99	Gain adjustment (fine adj. of the value set in ITEM 23)	0.00
06	2	-9999 – 9999	BCD Display range scaling 0% *1	-1000
07	2	-9999 – 9999	Display range scaling 100% *1	1000
06	2	-7FFF – 7FFF	Binary Display range scaling 0% *1	-7FFF
07	2	-7FFF – 7FFF	Display range scaling 100% *1	7FFF
06	2	0000 – FFFF	Offset binary Display range scaling 0% *1	0000
07	2	0000 – FFFF	Display range scaling 100% *1	FFFF
06	2	8000 – 7FFF	Two's complement Display range scaling 0% *1	8000
07	2	8000 – 7FFF	Display range scaling 100% *1	7FFF
06	2	0000 – FFFF	Reflected binary Display range scaling 0% *1	0000
07	2	0000 – FFFF	Display range scaling 100% *1	FFFF
08	2	0 – 99	Power ON-delay time (seconds)	5
09	2	0, 1, 2, 3, 4	Display code 0 : BCD with polarity (decimal) 1 : Binary with polarity 2 : Offset binary 3 : Two's complement 4 : Reflected binary	0
10	2	0, 1, 2, 3, 4	Available number of bits 0: 16 bits 1: 14 bits 2: 12 bits 3: 10 bits 4: 8 bits	0
11	2	0, 1, 2	Parity check 0: Disable 1: Enable Parity per each digit 2: Enable Parity for all digits	0
12	2	0, 1	Odd or even parity (Adjust the number of Hi output.) 0 : Odd (CMOS), Even (open collector) 1 : Even (CMOS), Odd (open collector)	0
13	2	0, 1	POL, OVF output logic 0 : Data available at High (CMOS) or ON (open collector) 1 : Data available at Low (CMOS) or OFF (open collector)	0
14	2	0, 1	Data output logic *2 0 : Positive (CMOS), Negative (open collector) 1 : Negative (CMOS), Positive (open collector)	0
15	2	0, 1	HOLD input logic 0 : HOLD at Low or shortcircuit 1 : HOLD at High or open circuit	0
16	2	0, 1	DAV output logic 0 : Data available at High (CMOS) or ON (open collector) 1 : Data available at Low (CMOS) or OFF (open collector)	0
17	2	1 – 50	DAV output time (msec.) selectable up to 50% of the Output Rate (ITEM 20)	1
18	2	0, 1, 2, 3, 4, 5	Moving average (10 msec./sampling) 0: No 1: 5 samples 2: 8 samples 3: 12 samples 4: 20 samples 5: 36 samples	1
19	2	0.0 – 60.0	Delay buffer (seconds, 0 – 90%)	0.5

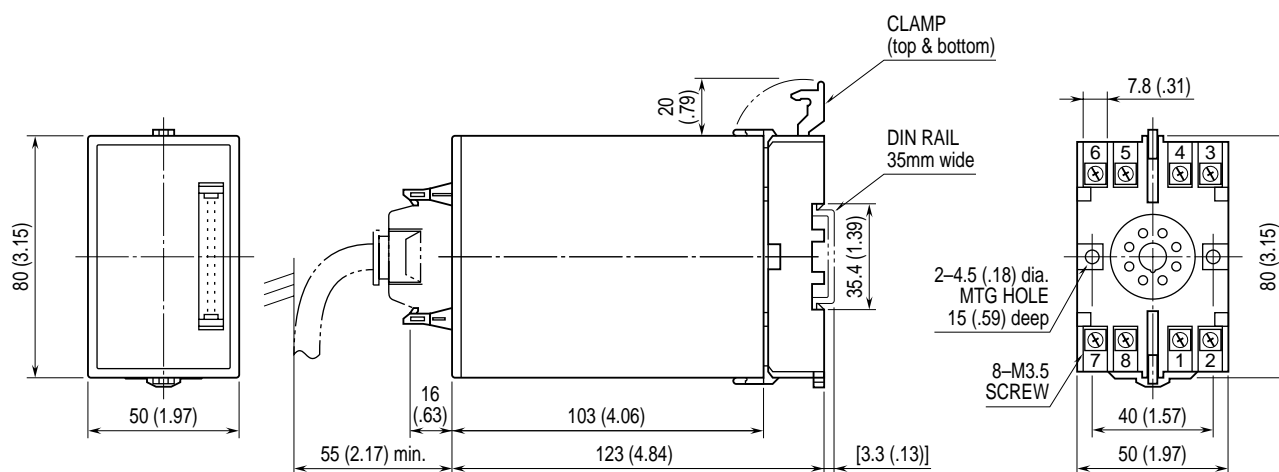
ITEM	MDF. CODE	DATA	CONTENTS	DEFAULT
20	2	1 – 20	Output rate 'n' ratio (n : 1 – 20 times)	1
21	2	0, 1 – 60	Power-saving mode 0 : Continuous display 1 – 60 : Time before display turned off (minutes)	10
22	2	-1.00 – 1.00	Input code S1 0% input voltage (V) * <sup>3</sup>	-1.00
23	2	-1.00 – 1.00	100% input voltage (V) * <sup>3</sup>	1.00
22	2	-10.0 – 10.0	Input code S2 0% input voltage (V) * <sup>3</sup>	-10.0
23	2	-10.0 – 10.0	100% input voltage (V) * <sup>3</sup>	10.0
22	2	-30.0 – 30.0	Input code S3 0% input voltage (V) * <sup>3</sup>	-30.0
23	2	-30.0 – 30.0	100% input voltage (V) * <sup>3</sup>	30.0
22	2	0.0 – 50.0	Input code Z1 0% input current (mA) * <sup>3</sup>	4.0
23	2	0.0 – 50.0	100% input current (mA) * <sup>3</sup>	20.0
24	3	0, 1	Reset all settings * <sup>4</sup>	0
25	N/A	–	ROM version	–

\*1: Of the range set in ITEM 04/05. ITEM 06 < ITEM 07. \*2: ITEM 13, 15 or 16 is independent from ITEM 14.

\*3: ITEM 22 < ITEM 23.

\*4: Press DATA UP key and choose DATA 1. Double-click DATA DOWN key. The display shows DATA 0 after the initialization is complete.

### EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS mm (inch)



•When mounting, no extra space is needed between units.