Feb.23rd'99

SPECIFICATIONS

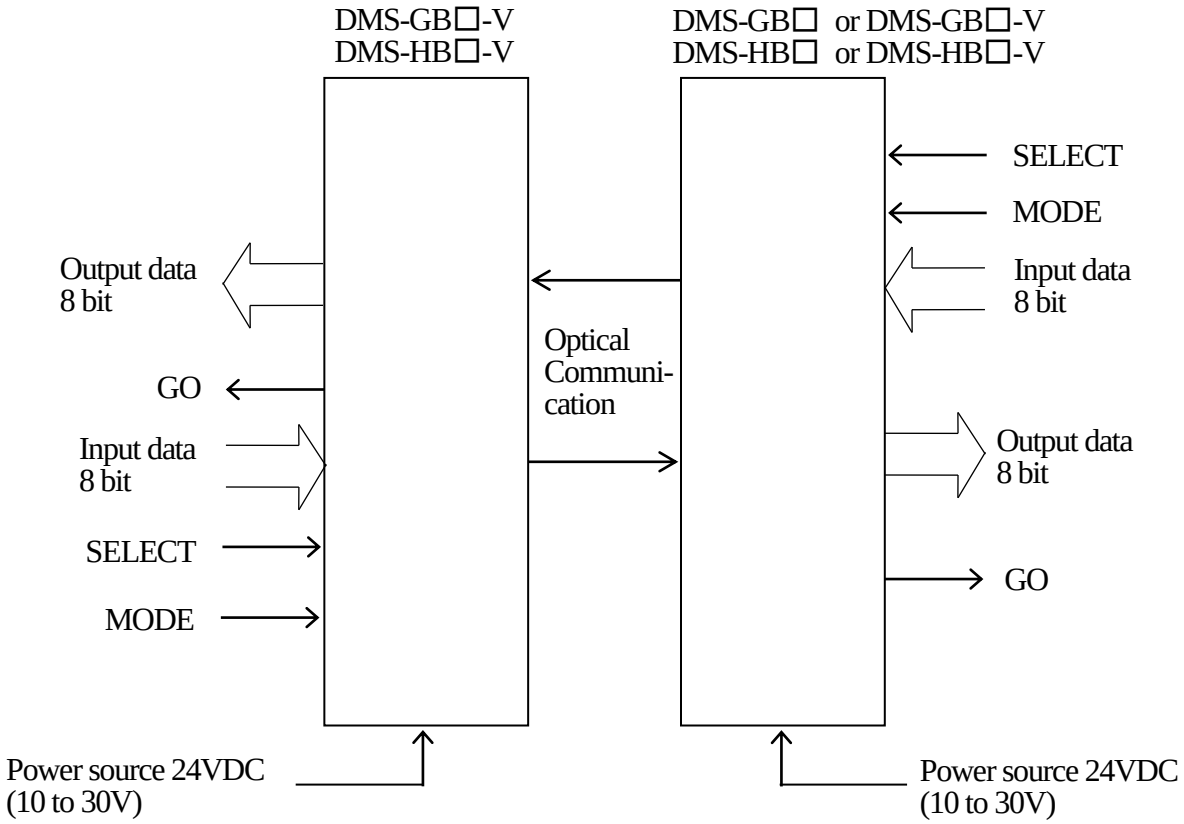
OPTICAL DATA TRANSMISSION DEVICE (WITH PROJECTION AMOUNT ADJUSTER)

DMS-GB□-V(8 BIT, HEAD-ON)
DMS-HB□-V(8 bit, SIDE-ON)

Corresponding to SI unit

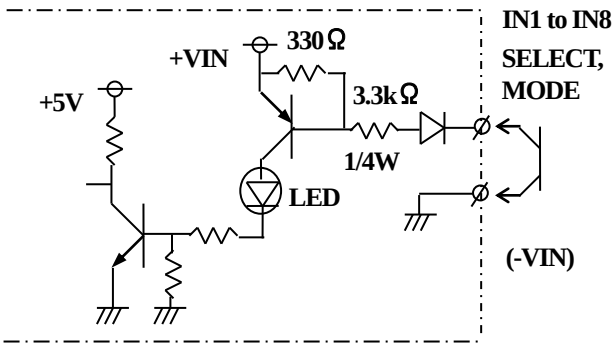
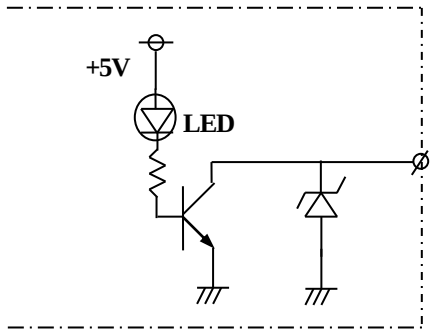
Symbol	Amended reason				Pages	Date	Corrector	Amended No.
Approved by	Checked by	Drawn by	Designed by	Title	Optical Data Transmission Device DMS-GB/HB□-V Specifications			
MAEJIMA	KITADA	OJIMA	OJIMA	Drawing No.	C-42-2817			1/5

1.Configuration



2. Specifications

Model No.	DMS-GB1-V	DMS-HB1-V	DMS-GB2-V	DMS-HB2-V
Transmission distance	0 to 1.0m(Changeable by adjuster)		0 to 3.0m(Changeable by adjuster)	
Directive angle	30 degrees(Full angle)		10 degrees(Full angle)	
Transmission directions	HEAD-ON	SIDE-ON	HEAD-ON	SIDE-ON
Transmission capacity (Input/Output)	8 bit/8 bit			
Transmission method	Half-duplex two-way transmission			
Transmission time	40msec			
Modulation method	Pulse modulation			
Verification method	Parity check			
Power source	24VDC(10 to 30V)			
Current consumption	100mA Max.			
Ambient illuminance	4,000lx or less			
Ambient temperature/ humidity	-10 to 50℃/ 85%RH or less			
Vibration resistance	Double amplitude 1.5mm, 10 to 30Hz, Each 2 hour in X, Y and Z directions			
Impact resistance	500m/s^2 Each 10 times in X, Y and Z directions			
Connection	Cable type(0.2mm^2, 22-core shield cable)			
Protective structure	IP64			

Input IN1 to IN8, SELECT, MODE	 ON current 2.5mA or more OFF current 1mA or less (Operation threshold current 1.5 to 2mA) *1
Output, OUT1 to OUT8, GO	 NPN open-collector output VCE30V or less IC50mA or less Residual voltage 1.8V or less

*1. 2-wire sensor isn't available.

3. Transmission characteristics

(1) Characteristics data Unit(msec)

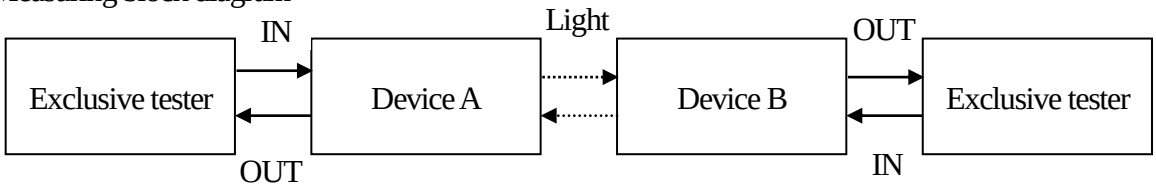
Items	Symbols	MIN	MAX
Input data holding time	tIH	30	-
Transmission time	tON, tOFF	13	40
Transmission starting delay time (Against optical axis coincidence)	tSD	30	110
Output holding time(Against SELECT A)	tOH1	50	90
Output holding time(Against SELECT B)	tOH2	-	5
Output holding time(Against light-interruption)	tOH3	50	90

(2) Characteristics measuring condition

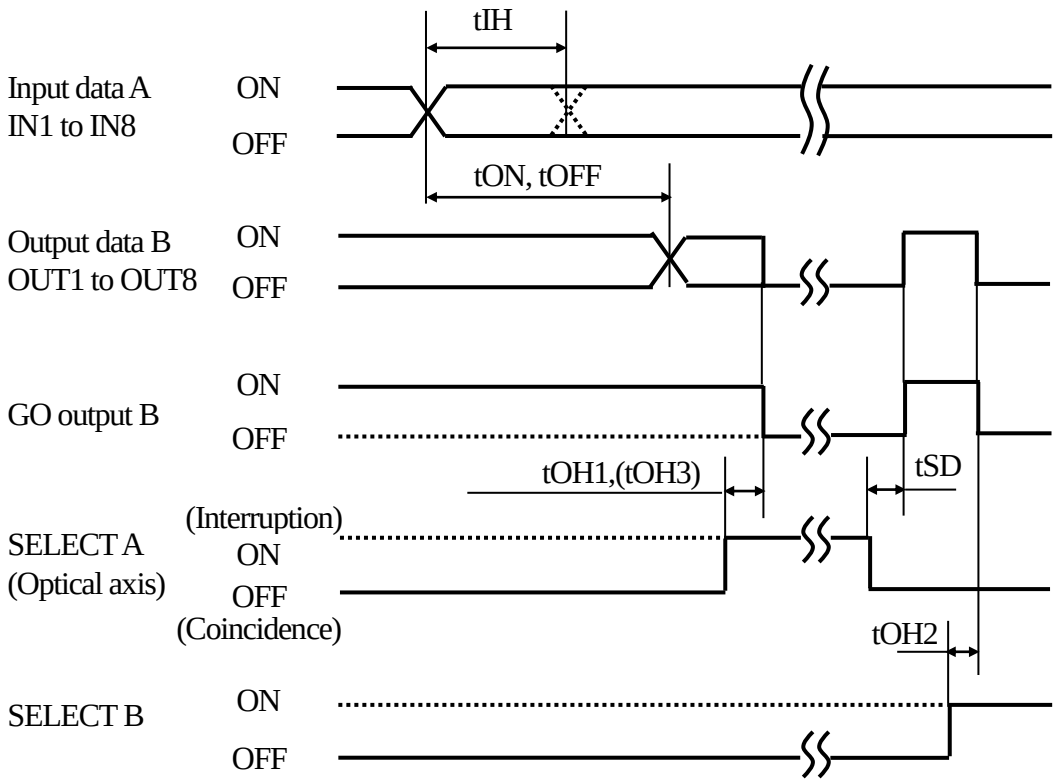
*Mode : Side A – Reception stand-by mode, Side B – Transmission stand-by mode

*It was measured under input(side A) and output(side B).

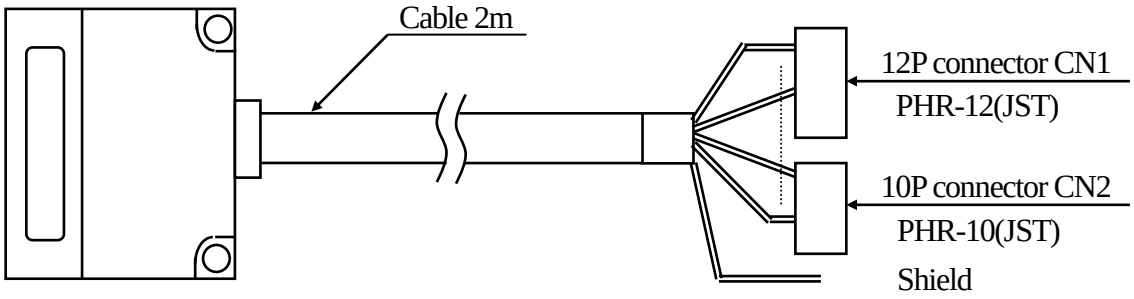
(3) Measuring block diagram



(4) Transmission timing



4. External wiring



Colors	Pin No.	Functions
Brown	CN1-5	IN1
Red	CN1-7	IN2
Orange	CN1-9	IN3
Yellow	CN1-11	IN4
Green	CN2-1	IN5
Blue	CN2-3	IN6
Purple	CN2-5	IN7
Gray	CN2-7	IN8
White	CN1-3	SELECT
Pink	CN1-2	MODE
Brown/black	CN1-6	OUT1
Red/Black	CN1-8	OUT2

Colors	Pin No.	Functions
Orange/Black	CN1-10	OUT3
Yellow/Black	CN1-12	OUT4
Green/Black	CN2-2	OUT5
Blue/Black	CN2-4	OUT6
Purple/Black	CN2-6	OUT7
Gray/Black	CN2-8	OUT8
White/Black	CN1-4	GO
Pale blue	CN1-1	COM
Pink/Black	CN2-9	+VIN
Pale blue/Black	CN2-10	-VIN
Shield wire	Shield	

5.Function for each terminal

Terminals	Functions	
IN1 to IN 8	Input data	
OUT1 to OUT8	Output data	
SELECT	It is shorted to COM : Transmission/reception is stopped It is opened : Transmission/reception is operated	
MODE	It is opened : Transmission standby mode It is shorted to COM : Reception standby mode	
GO	It is ON when normal data was received and OFF when light was interrupted	
COM	Common for input/output	
+VIN	+24V(10 to 30V)	Power source
-VIN	0V	

Note) Make sure to set other one to reception standby mode.