Nov.27th'03

OPTICAL DATA TRANSMISSION DEVICE

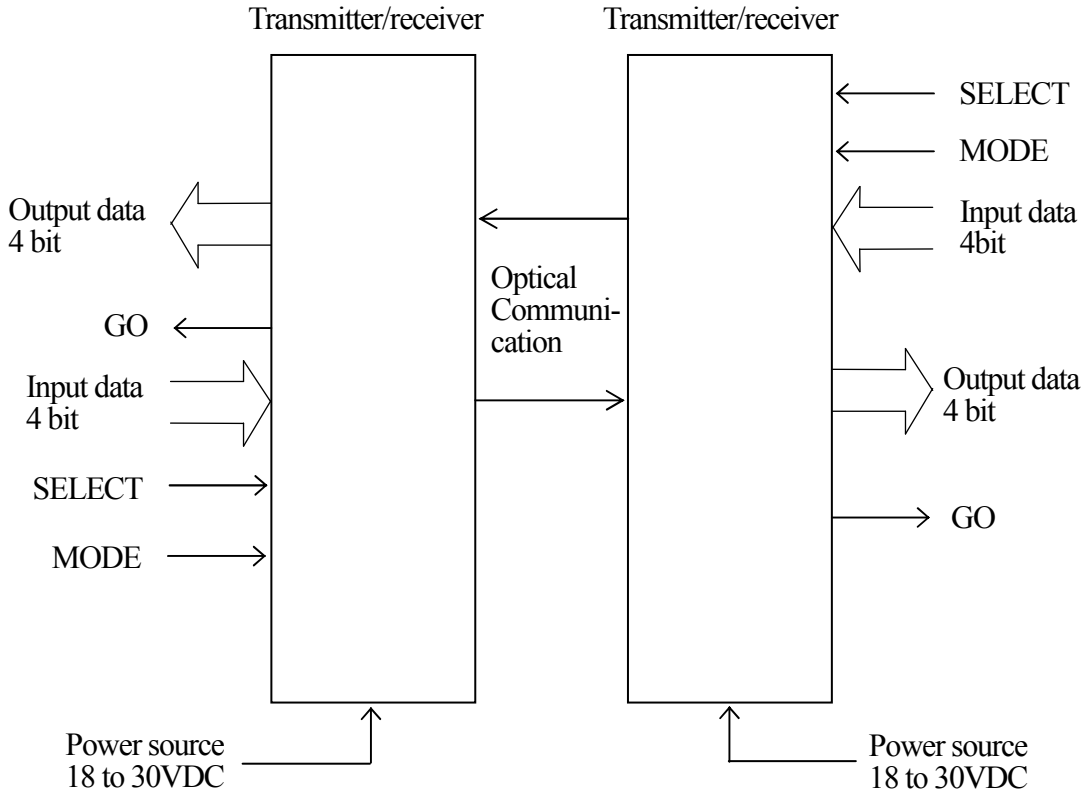
SPECIFICATIONS

⚠1 DMS-GA1-P(HEAD-ON, PNP OUTPUT)
DMS-HA1-P(SIDE-ON, PNP OUTPUT)
DMS-GA2-P(HEAD-ON, PNP OUTPUT)
DMS-HA2-P(SIDE-ON, PNP OUTPUT)

⚠1 ×2	Models added				1,2	Mar.19'04	Iguchi	FA-5166
Symbol	Amended reason				Pages	Date	Corrector	Amended No.
Approved by	Checked by	Drawn by	Designed by	Title	Optical Data Transmission Device DMS-G/HA1/2-P Specifications			
MAEIJIMA	OJIMA	IGUCHI	IGUCHI	Drawing No.	C-42-3277			1/5

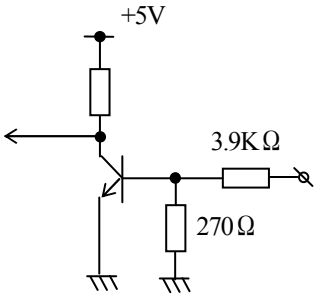
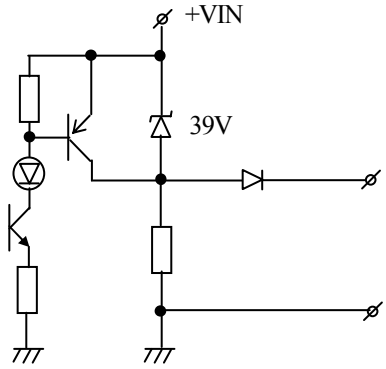
HOKUYO AUTOMATIC CO.,LTD.

1. Configuration



2. Specifications

Model No.	DMS-GA1-P	DMS-HA1-P	DMS-GA2-P	DMS-HA2-P
Transmission distance	0 to 1.0m(Adjustable)		0 to 3.0m(Adjustable)	
Directive angle	+/- 15 degrees		+/- 5 degrees	
Transmission directions	HEAD-ON	SIDE-ON	HEAD-ON	SIDE-ON
Transmission capacity (Input/Output)	4 bit/4 bit			
Transmission method	Half-duplex two-way transmission			
Transmission time	40msec			
Modulation method	Pulse modulation			
Verification method	Parity check			
Power source	24VDC(18 to 30V available) Ripple 5% or less			
Current consumption	100mA Max.(350mA Max. when connecting load)			
Ambient illuminance	4,000lux or less			
Ambient temperature/ humidity	-10 to 50 degrees C・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, 15-core shield cable)			
Protective structure	IP64			

Input IN1 to IN4, SELECT, MODE	 LOW 0 to 6V HIGH 11 to 30V
Output, OUT1 to OUT4, GO	 Output current Max. 50mA

3. Transmission characteristics

(1) Characteristics data Unit(msec)

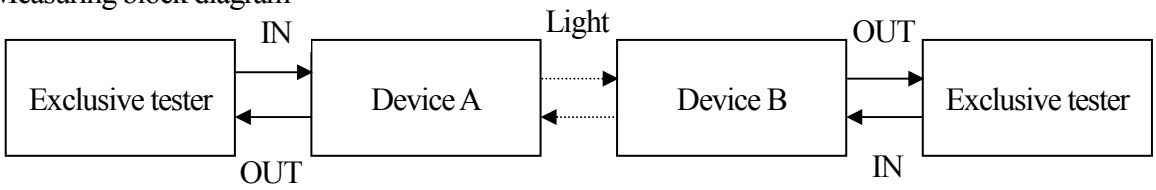
Items	Symbols	MIN	MAX
Input data holding time	tIH	30	-
Transmission time	tON, tOFF	13	40
Transmission starting delay time (Against optical axis coincidence)	tSD	30	110
Output holding time(Against SELECT A)	tOH1	50	90
Output holding time(Against SELECT B)	tOH2	-	5
Output holding time(Against light-interruption)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

(2) Characteristics measuring condition

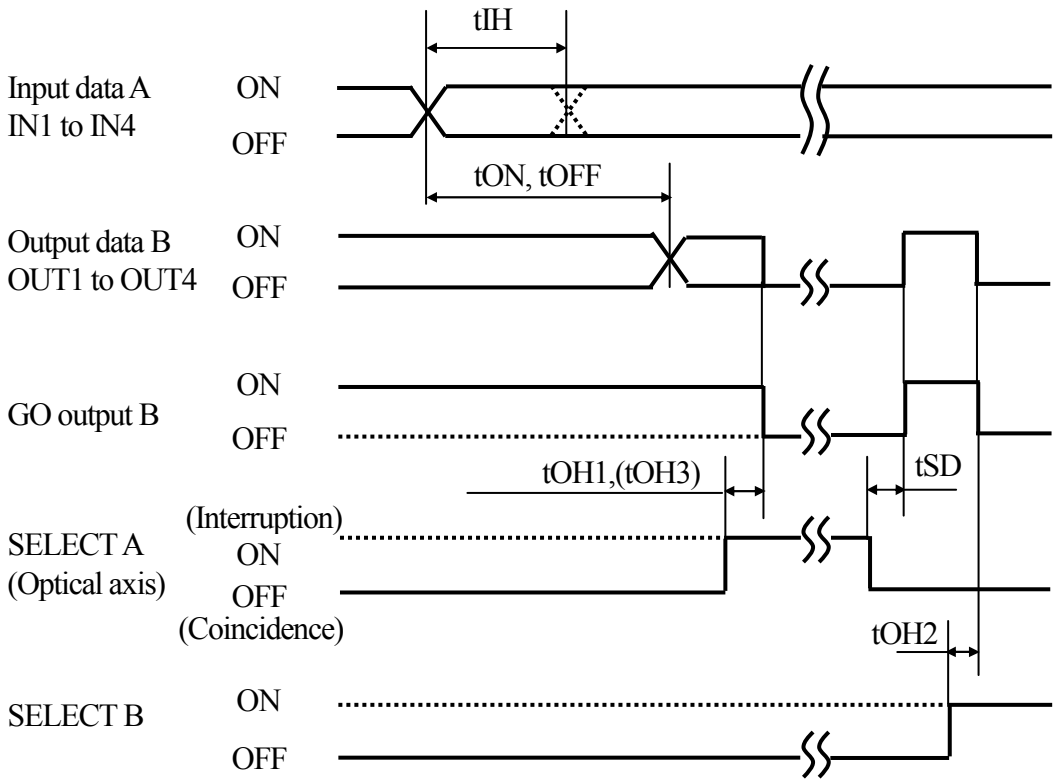
*Mode : Side A – Reception stand-by mode, Side B – Transmission stand-by mode

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

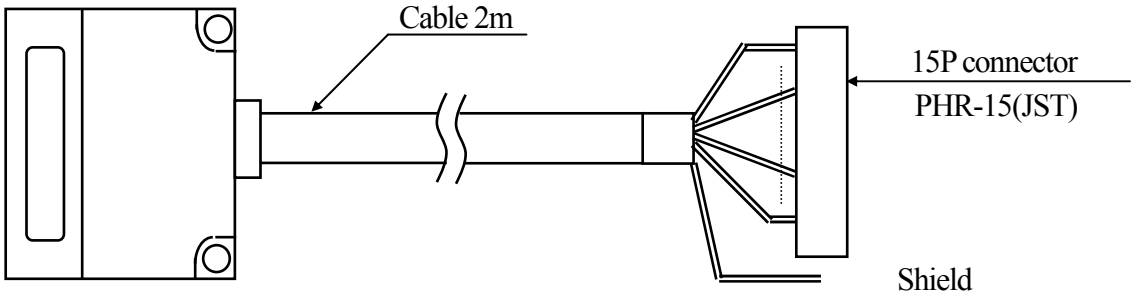
(3) Measuring block diagram



Transmission timing



4. External wiring



Colors	Pin No.	Functions
Black	1	IN1
Brown	2	IN2
Red	3	IN3
Orange	4	IN4
White/Yellow	5	MODE
Yellow	6	SELECT
White/Blue	7	NC
Green	8	OUT1
Blue	9	OUT2
Purple	10	OUT3
Gray	11	OUT4
White	12	GO
Yellow/Green	13	COM(0V)
Yellow/Red	14	+VIN
Yellow/Black	15	-VIN(0V)
Shield	Shield	

Note) Pin No.13 is connected to Pin No.15 inside.

5.Function for each terminal

Terminals	Functions	
IN1 to IN 4	Input data	
OUT1 to OUT4	Output data	
SELECT	It is shorted to +VIN : Transmission/reception is stopped It is opened : Transmission/reception is operated	
MODE	It is opened : Transmission standby mode It is shorted to +VIN : Reception standby mode	
GO	It is ON when normal data was received and OFF when light was interrupted	
+VIN	+24V(18 to 30V)	Power source
-VIN	0V	

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