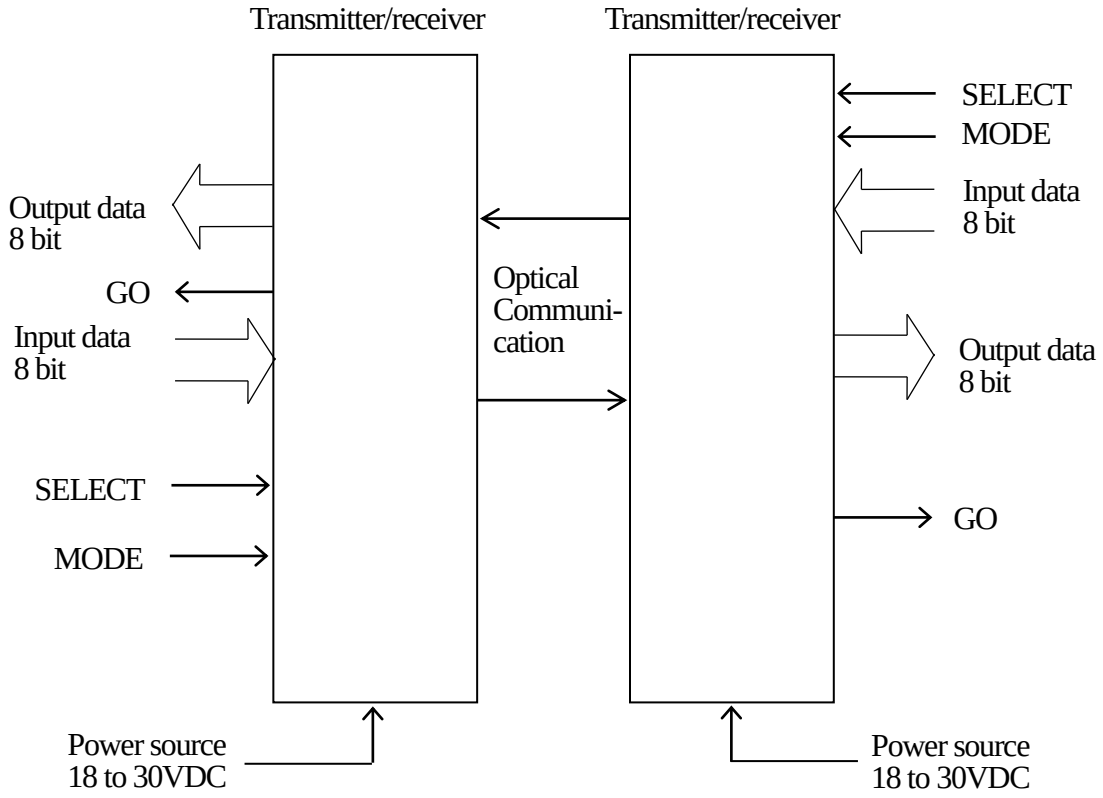
OPTICAL DATA TRANSMISSION DEVICE

SPECIFICATIONS

DMS-GB1-Z99
(HEAD-ON, PNP OUTPUT)

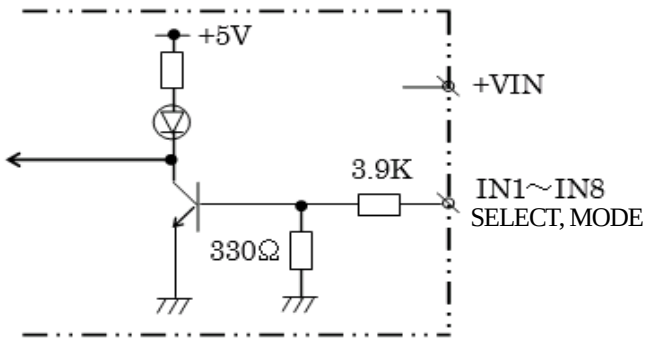
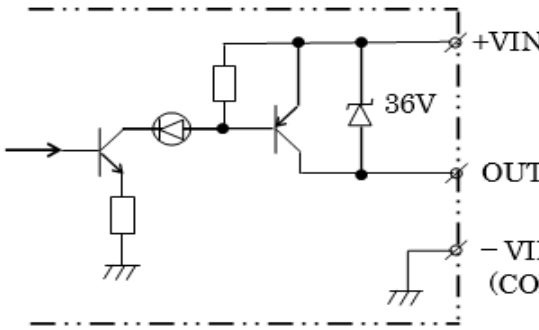
△ × 3	Correction of Transmission Distance, Input/Output circuit diagram				2, 3	Feb. 2'22	Tabata	FA-8630
Symbol	Amended reason				Pages	Date	Corrector	Amended No.
Approved by	Checked by	Drawn by	Designed by	Title	Optical Data Transmission Device DMS-GB1-Z99 Specifications			
KAMITANI	IGUCHI	TABATA	HAYASHIYA	Drawing No.	C-42-3561			1/5

1.Configuration



2. Specifications

Model No.	DMS-GB1-Z99
Transmission distance	0 to 1.0m (Adjustable by the adjuster) ⚠
Directive angle	±15°
Transmission directions	HEAD-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 (18 to 30V available) Ripple 5% or less
Current consumption	100mA Max. (550m Max. when connecting load)
Ambient illuminance	4,000lux or less
Ambient temperature/ humidity	-10 to 50℃ / 85%RH or less
Vibration resistance	Double amplitude 1.5mm, 10 to 30Hz, Each 2 hours in X, Y and Z directions
Impact resistance	500m/s² Each 10 times in X, Y and Z directions
Connection	Cable type (0.2mm², 22-core shield cable)
Protective structure	IP64

Input IN1 to IN8 SELECT, MODE	 LOW 0～ 6V HIGH 11～30V ⚠
Output OUT1 to OUT8 GO	 Output current Max. 50mA ⚠

3. Transmission characteristics

(1) Characteristics data Unit(msec)

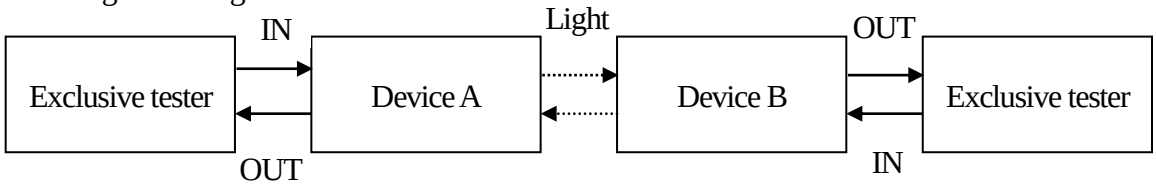
Items	Symbols	MIN	MAX
Input data holding time	tIH	30	-
Transmission time	tON, tOFF	13	40
Transmission starting delay time (Against optical axis coincidence)	tSD	30	110
Output holding time(Against SELECT A)	tOH1	50	90
Output holding time(Against SELECT B)	tOH2	-	5
Output holding time(Against light-interruption)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

(2) Characteristics measuring condition

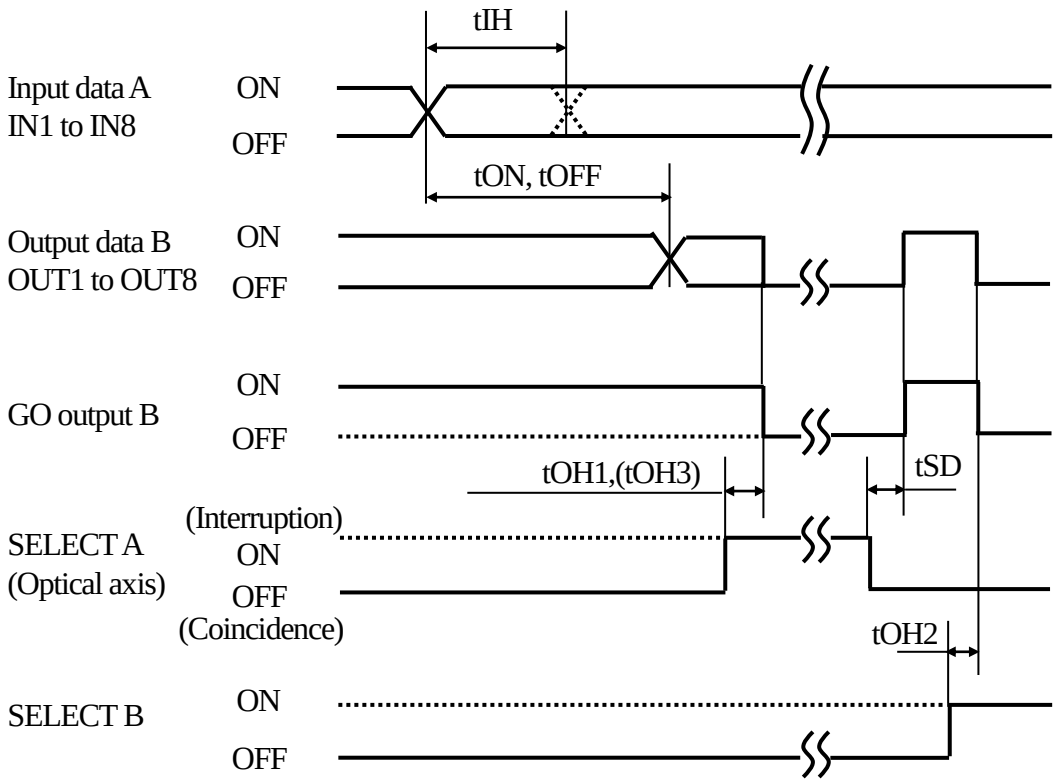
*Mode : Side A – Reception stand-by mode, Side B – Transmission stand-by mode

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

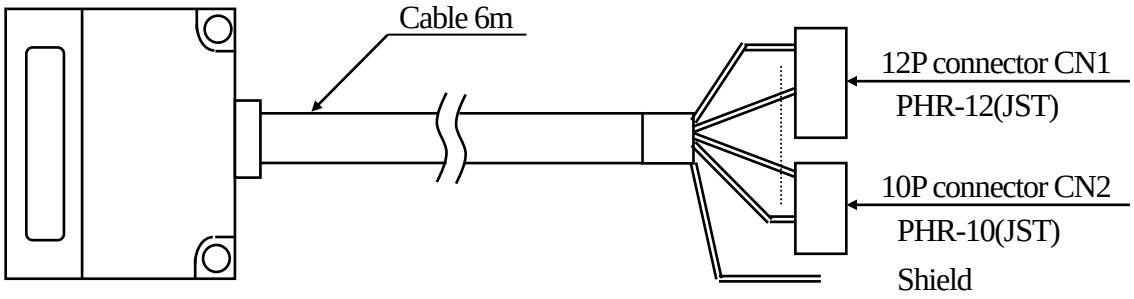
(3) Measuring block diagram



(4) Transmission timing



4. External wiring



Colors	Pin No.	Functions
Brown	CN1-3	IN1
Red	CN1-4	IN2
Orange	CN1-5	IN3
Yellow	CN1-6	IN4
Green	CN1-7	IN5
Blue	CN1-8	IN6
Purple	CN1-9	IN7
Gray	CN1-10	IN8
White	CN1-11	SELECT
Pink	CN2-1	MODE
Brown/black	CN2-10	OUT1
Red/Black	CN2-9	OUT2

Colors	Pin No.	Functions
Orange/Black	CN2-8	OUT3
Yellow/Black	CN2-7	OUT4
Green/Black	CN2-6	OUT5
Blue/Black	CN2-5	OUT6
Purple/Black	CN2-4	OUT7
Gray/Black	CN2-3	OUT8
White/Black	CN2-2	GO
Pale blue	CN1-12	COM
Pink/Black	CN1-2	+VIN
Pale blue/Black	CN1-1	-VIN
Shield (Green Contractible tube)	Shield	

5.Function for each terminal

Terminals	Functions	
IN1 to IN 8	Input data	
OUT1 to OUT8	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	
COM	Common for input/output	
+VIN	+24V (18 to 30V)	Power source
-VIN	0V	

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