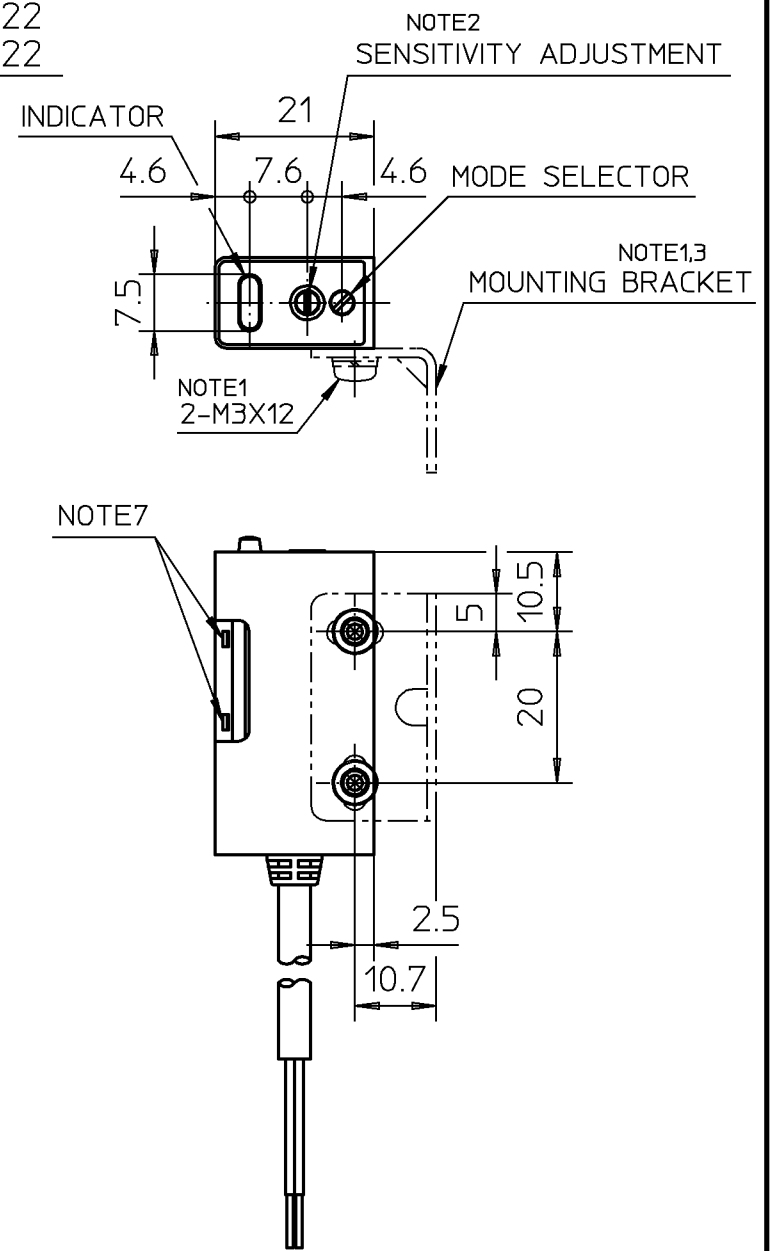
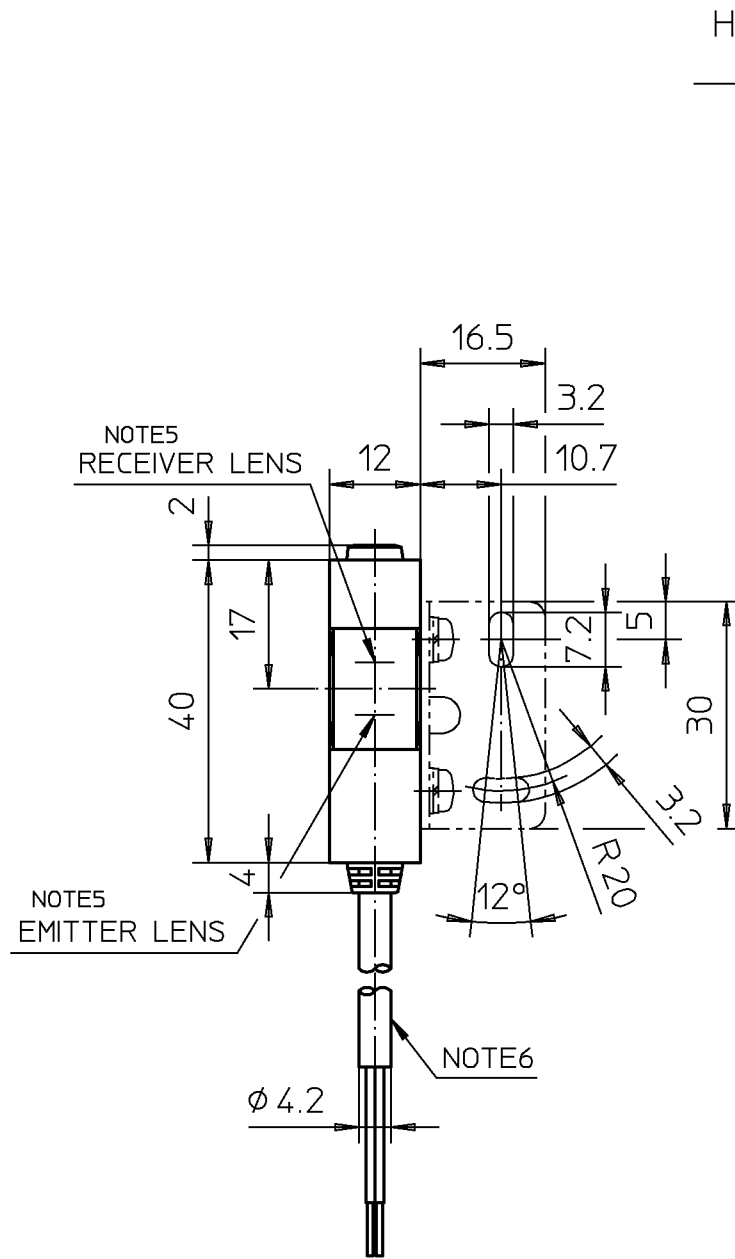
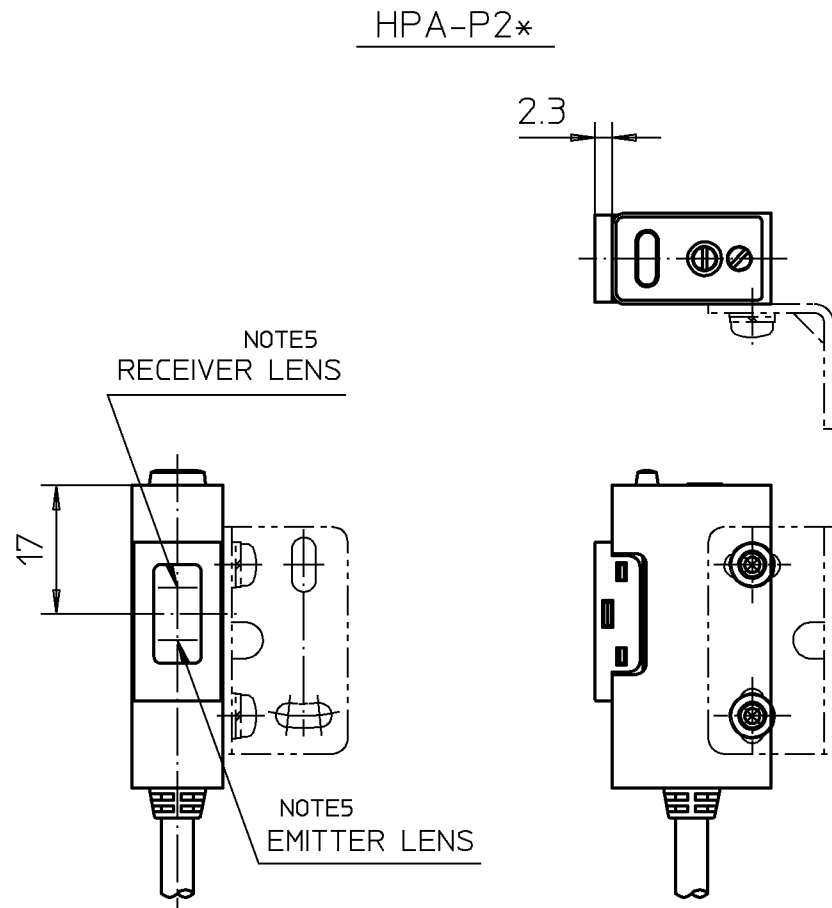


	THROUGH SCAN		POLARIZED RETROREFLECTIVE SCAN	DIFFUSE SCAN LIGHT SOURCE : RED	DIFFUSE SCAN LIGHT SOURCE : INFRARED	SELF-DIAGNOSIS/ SET MODE	OUTPUT
	SET	EMITTER	RECEIVER				
	HPA-T24	HPA-E23	HPA-R24	HPA-P24	—	PROVIDED	OPEN COLLECTOR OF
	HPA-T22	HPA-E21	HPA-R22	HPA-P22	HPA-D22	NOT PROVIDED	PNP TRANSISTOR



- 7 ATTACH THE OPTIONAL ACCESSORY HERE. (HPA-U**)
- 6 CABLE : OIL RESIST 0.2mm²
COLOR : GRAY (EXCEPT THROUGH SCAN EMITTER)
: BLACK (THROUGH SCAN EMITTER ONLY)
- 5 LENS DIAMETER : φ8
- 4 MATERIAL
PHOTOELECTRIC SWITCH
CASE : PBT RESIN/BLACK
- LENS : POLYARYLATE RESIN (THROUGH, DIFFUSE SCAN)
: PMMA RESIN (POLARIZED RETRO. SCAN)
- MOUNTING BRACKET : Al t1.2

- 3 MOUNTING BRACKET CAN BE USED ON BOTH SIDE.
- 2 SCREW DRIVER FOR SENSITIVITY ADJUSTMENT IS INCLUDED.

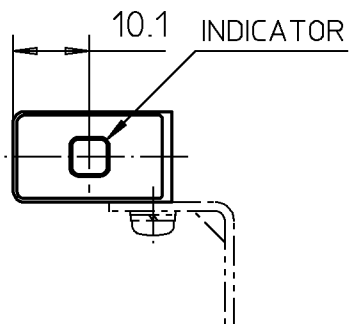
NOTE 1 MOUNTING BRACKET AND SCREWS ARE INCLUDED.

04	JEO 99-2064	5.13 '99	Y.N.	T.N.
03	JEO 96-2229	10.18 '96	T.K.	T.N.
02	JEO 95-2280	10.27 '95	T.K.	T.N.
01	JEO 94-2183	7.26 '94	M.T.	T.N.
改番 REV.	来歴 RECORD	: 日付 DATE	担当 BY	検閲 APPD.

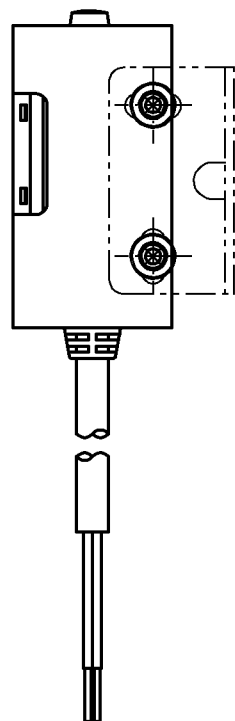
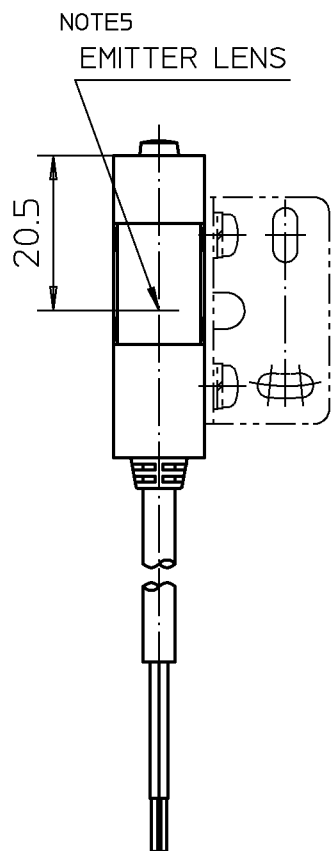
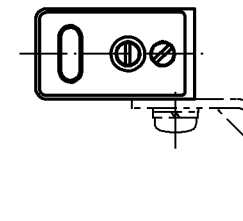
作成DR T.Koike 2-22-'94		尺度 SCALE 1:1	記入のない公差 TOL. UNLESS NOTED ±0.8 ±2°
検図CHK. T.Nakao 3-1 '94	形番 MODEL	HPA SERIES	
認可APPD. S.Nonaka 3-1 '94	名称 NAME	PHOTOELECTRIC SWITCH	
日付 DATE 3-3 '94	図番 NO.	改番 REV 04	1/4

SR. No.

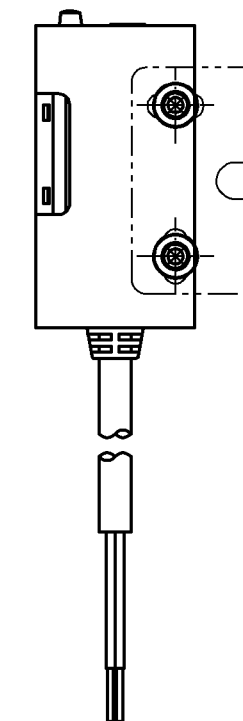
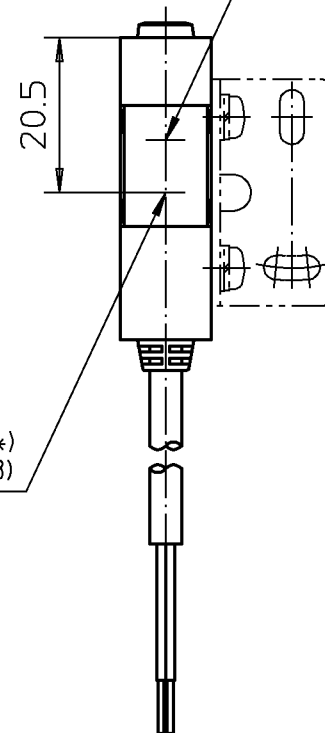
HPA-E21



HPA-E23
-R2*



FRONT INDICATOR (HPA-R2*)



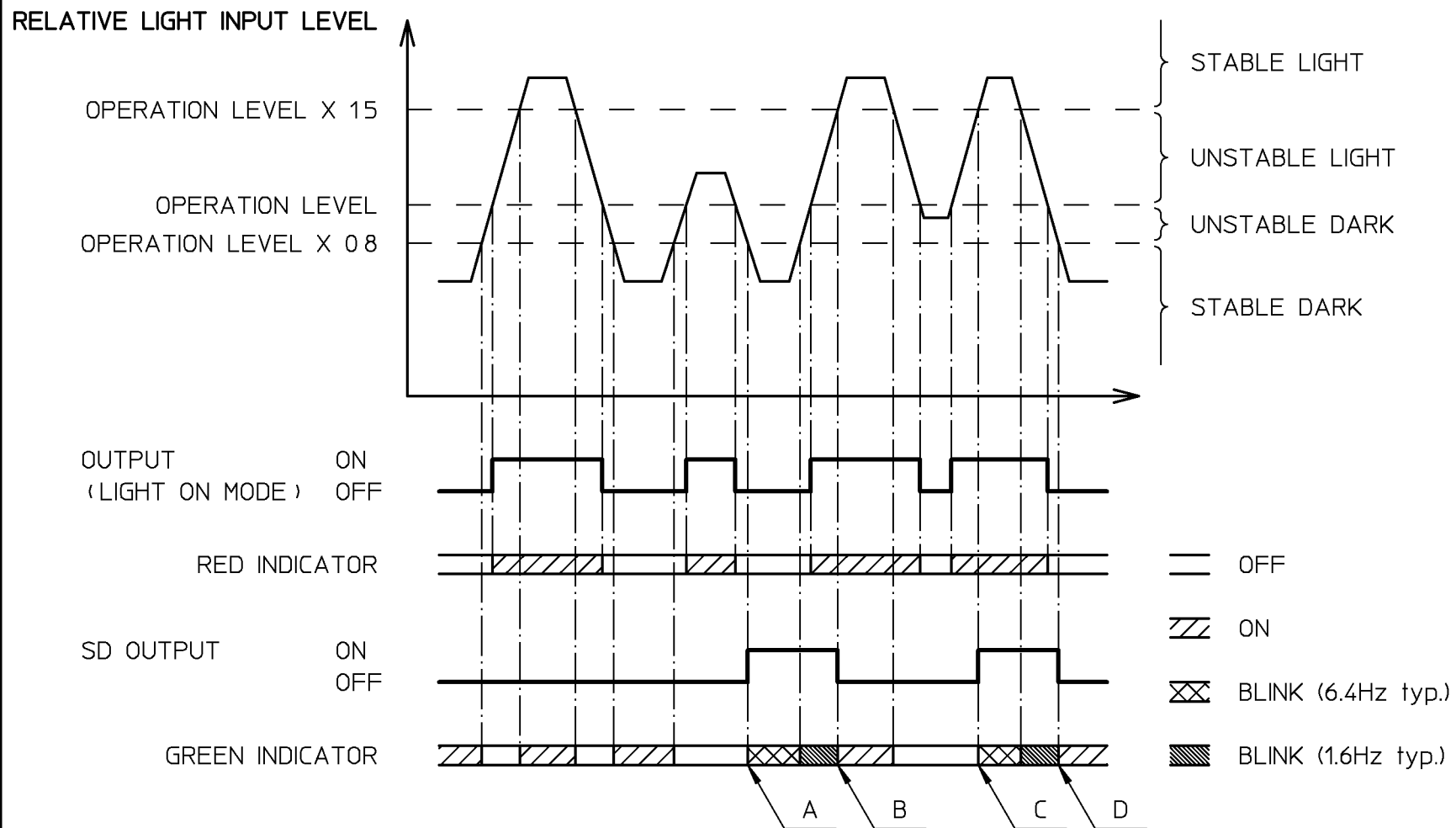
NOTE5
RECEIVER LENS (HPA-R2*)
EMITTER LENS (HPA-E23)

作成DR T.Koike 2-22-'94		尺度 SCALE 1:1	記入のない公差 TOL. UNLESS NOTED ±0.8 ±2°
検図CHK. T.Nakao 3-1-'94	形番 MODEL	HPA SERIES	
認可APPD S.Nonaka 3-1-'94	名称 NAME	PHOTOELECTRIC SWITCH	
日付 DATE 3-3-'94	図番 NO.	AD41153E	改番 REV 04 / 2/4

04	~	~	~
改番 REV.	来歴 RECORD	日付 DATE	担当 BY
			検閱 APPD.

SR. No.	Yamatake Corporation		製品仕様書 SPECIFICATIONS				SET MODE				
	CATALOG LISTING	HPA-T22	HPA-T24	HPA-P22	HPA-P24	HPA-D22	HPA-A22	CATALOG LISTING	HPA-T24	HPA-P24	
	SCANNING TYPE	THROUGH SCAN		POLARIZED RETROREFLECTIVE SCAN		DIFFUSE SCAN		LIGHT SOURCE	POWER:APPROX. 50% LESS THAN NORMAL OPERATION LED BLINKING		
	SUPPLY VOLTAGE	10 TO 30VDC (RIPPLE 10% max.)						OUTPUT	OUTPUT & SD OUTPUT : OFF		
	CURRENT CONSUMPTION	50mA max.(*2) EMITTER:20mA max RECIEVER:30mA max.		40mA max.(*2)				OTHER	E23 · GREEN INDICATOR 'ON'		
	SCANNING DISTANCE	10m		0 TO 4m (REFLECTOR:FE-RR8)		0.2m	0.8m	CABLE			
	TARGET	OPAQUE MATERIALS MORE THAN φ8		OPAQUE MATERIALS MORE THAN φ80 (REFLECTOR:FE-RR8)		WHITE PAPER(*1) 10X10cm	WHITE PAPER(*1) 20X20cm	CATALOG LISTING	CABLE LENGTH		
	OPERATING ANGLE	2 TO 20°		SENSOR:1 TO 5° / REFLECTOR:40°min.				HPA-***	2000min.		
	HYSTERESIS							20% max. OF SCANNING DISTANCE		HPA-***-L05	5000min.
	OPERARING MODE	'LIGHT ON'/'DARK ON' SELECTIVE (BY MODE SELECTOR)						HPA-***-L10		10000min.	
	OUTPUT MODE	OPEN COLLECTOR OF PNP TRANSISTOR									
	OUTPUT	LOAD CURRENT 100mA (RESISTIVE LOAD), OUTPUT WITHSTAND VOLTAGE:30V, SATURATION VOLTAGE 1V max. (AT 100mA LOAD CURRENT) SHORT CIRCUIT PROTECTION									
	SELF-DIAGNOSIS OUTPUT (SD OUTPUT)	NOT PROVIDED	PROVIDED	NOT PROVIDED	PROVIDED	NOT PROVIDED					
		LOAD CURRENT:50mA (RESISTIVE LOAD), OUTPUT WITHSTAND VOLTAGE:30V, SATURATION VOLTAGE:1V max. (AT 50mA LOAD CURRENT) SHORT CIRCUIT PROTECTION									
	RESPONSE TIME	0.5ms max.		1ms max.		0.5ms max.	5ms max.				
	LIGHT SOURCE	RED LED						INFRARED LED			
	INDICATOR	EXCEPT E21 & E23:RED 'ON' WITH RECEPTION OF LIGHT. GREEN 'ON' WITH STABLE LIGHT OR STABLE DARK. GREEN 'BLINK' WITH SELF-DIAGNOSIS E21:RED 'ON' WITH POWER ON. E23:RED 'ON' WITH POWER ON. GREEN 'ON' WITH SET MODE									
	AMBIENT LIGHT	INCANDESENT LIGHT:5000lx max. / SUNLIGHT:20000lx max.									
	OPERATING TEMPERATURE	-25 TO +60°C (SET MODE:+5 TO +30°C)									
	STORAGE TEMPERATURE	-40 TO +70°C									
	HUMIDITY	35 TO 85%RH (WITHOUT CONDENSATION)									
	INSULATION RESISTANCE	20MΩ min (AT 500VDC)									
	DIELECTRIC STRENGTH	1000VAC 50/60Hz 1MINUTE									
	VIBRATION	10 TO 55Hz 1.5mm DOUBLE AMPLITUDE 2HOURS IN EACH DIRECTION OF X,Y,Z									
	SHOCK	500m/s ² 10TIMES IN EACH DIRECTION OF X,Y,Z									
	SEALING	IP67 (IEC STANDAED)									
	WEIGHT	APPROX.55g (ONLY SENSOR WITH CABLE 2m)									
	PROTECTION	FALSE PULSE PROTECTION (70ms typ.) REVERSE POLARITY PROTECTION									
	EMC	EN61000-4-2:1995			LEVEL 3						
		ENV50140:1993			LEVEL 3						
		ENV50204:1995			LEVEL 3						
		EN61000-4-4:1995			LEVEL 3						
		IEC255-5:1977			LEVEL 3						
		ENV50141:1993			LEVEL 2						
	*1 KODAK GRAYCARD 90%										
	*2 APPROX. 30mA INCREASE IN SET MODE										
頁	改番					04	～	～	～		
						03	～	～	～		
						01	～	～	～		
		改番 REV.	来歴 RECORD	日付 DATE	担当 BY	検閲 APPD.	作成DR T.Koike 9-13-'93		検図CHK. T.Nakao 3-1-'94	認可APPD. S.Nonaka 3-1-'94	日付DATE 3-3-'94
							形番 MODEL HPA SERIES		名称 NAME PHOTOELECTRIC SWITCH		改番REV 04
							図番 NO. AD41153E		改番REV 04		3/4
							尺度 SCALE		記入のない公差 TOL. UNLESS NOTED		

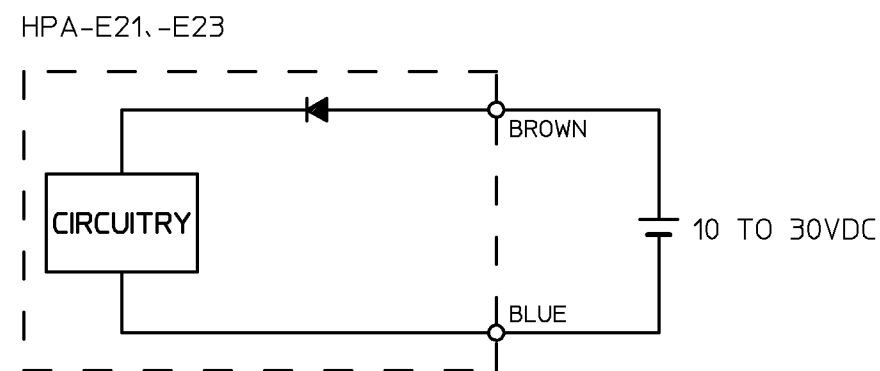
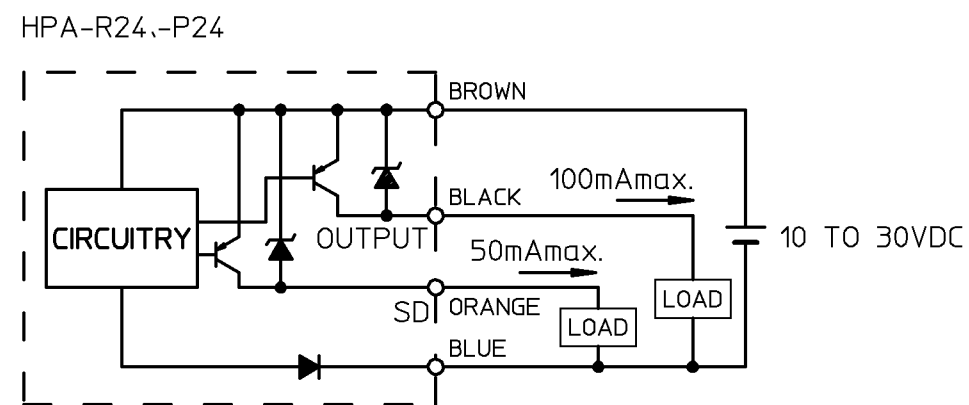
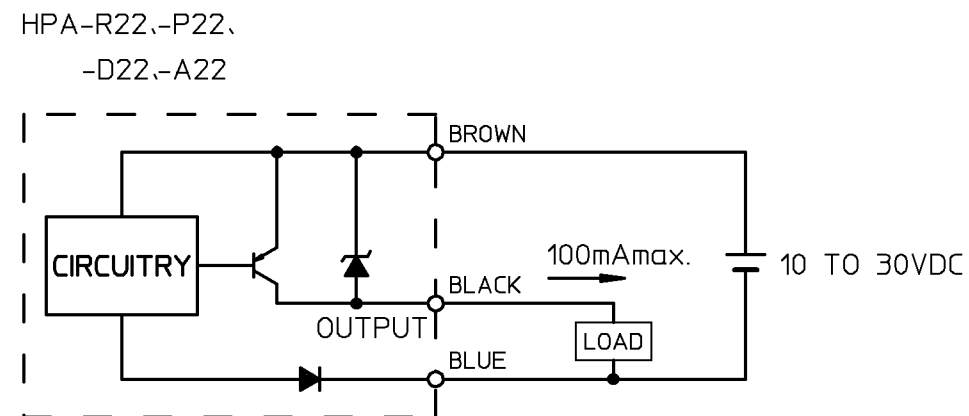
SR. No.



- A INPUT LEVEL CHANGES STABLE DARK → UNSTABLE LIGHT → STABLE DARK, GREEN INDICATOR TURNS TO SELF-DIAGNOSIS INDICATOR (BLINKING).
- B INPUT LEVEL INCREASES FROM STATE 'A' TO STABLE LIGHT, GREEN INDICATOR TURNS TO STABLE INDICATOR (ON OR OFF).
- C INPUT LEVEL CHANGES STABLE LIGHT → UNSTABLE DARK → STABLE LIGHT, GREEN INDICATOR TURNS TO SELF-DIAGNOSIS INDICATOR (BLINKING).
- D INPUT LEVEL DECREASES FROM STATE 'C' TO STABLE DARK, GREEN INDICATOR TURNS TO STABLE INDICATOR (ON OR OFF).

Fig. 1 OPERATION OF OUTPUT AND INDICATOR

CONNECTION



作成DR T.Koike 2-22-'94	検図CHK T.Nakao 3-1-'94	認可APPD S.Nonaka 3-1-'94	日付DATE 3-3-'94	形番 MODEL HPA SERIES	名称 NAME PHOTOELECTRIC SWITCH	図番 NO. AD41153E	改番REV 04	4/4
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