Lampiran 1 ladder diagram

Diagram *Ladder* Ukuran Umum (A4)

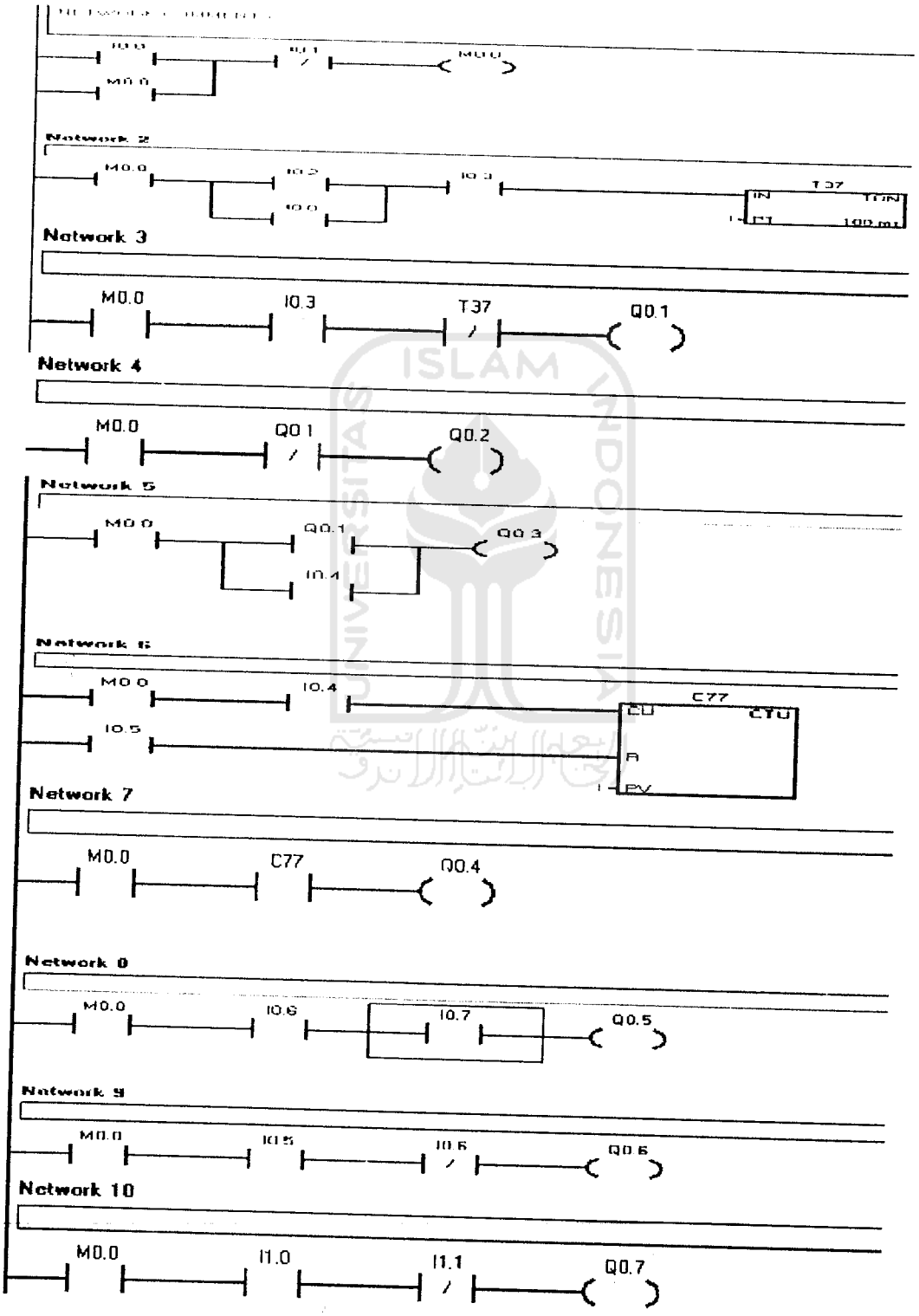


Diagram ladder ukuran umum (Folio)

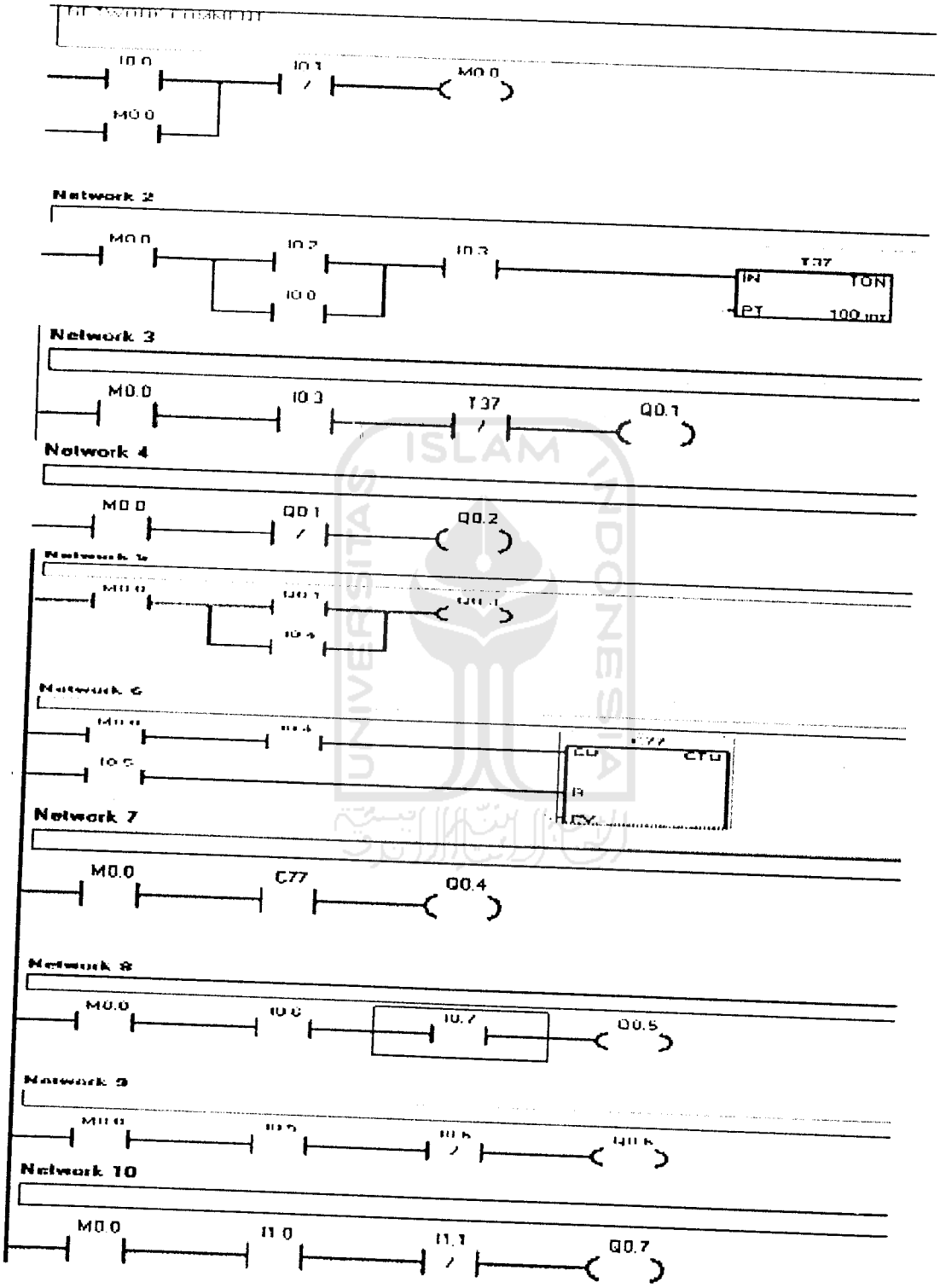
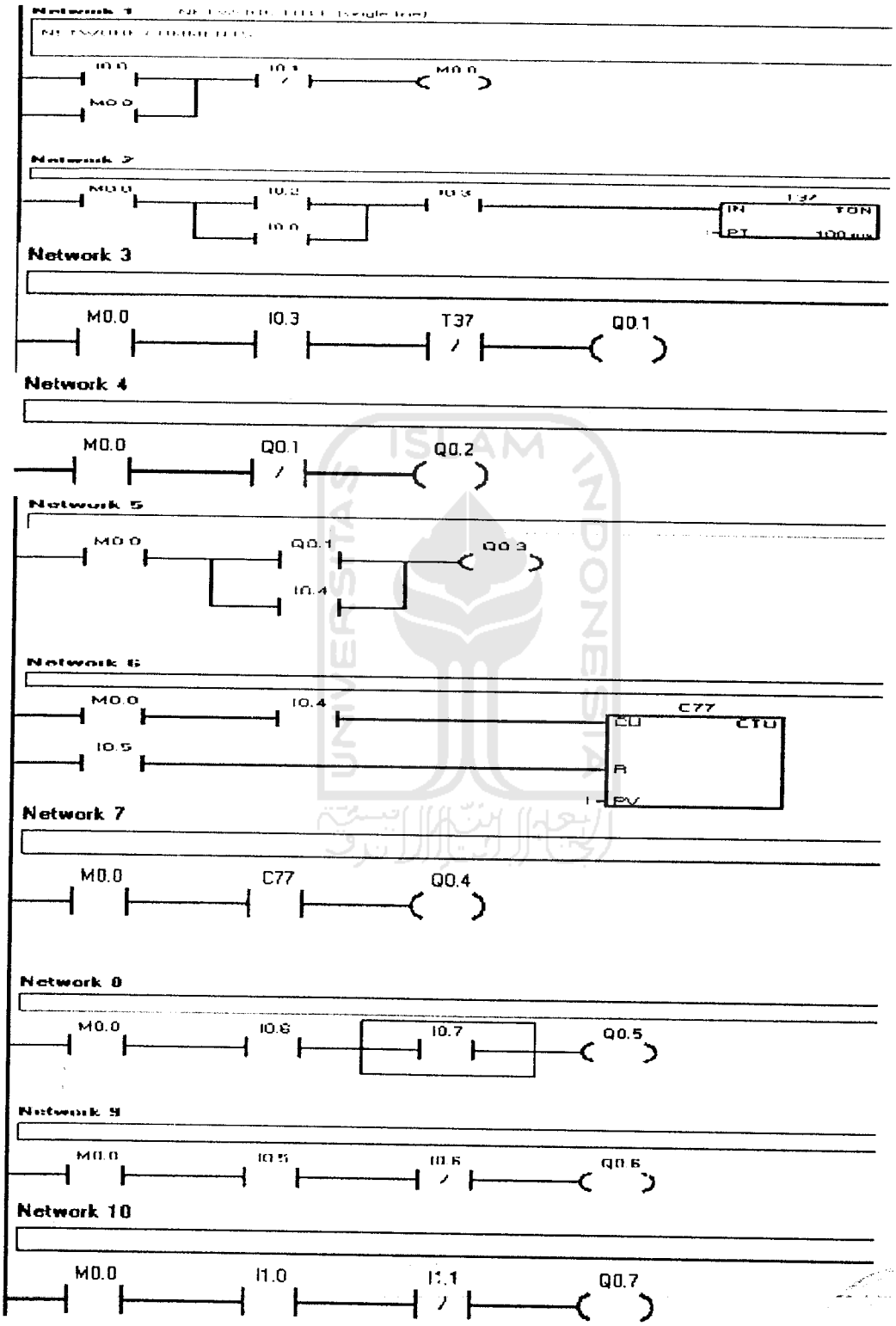
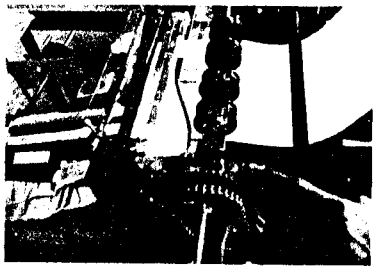


Diagram ladder ukuran khusus (Stiker)



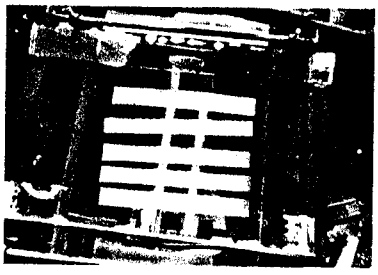
Lampiran 2 Gambar alat

Gambar ke-1 proses berlangsungnya pemotongan dari awal sampai kertas potong dihasilkan (jenis kertas gambar).



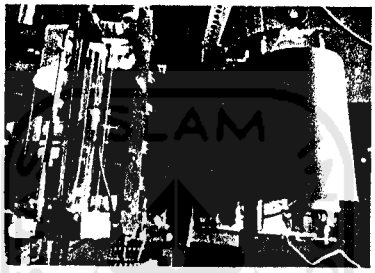
Tombol warna hijau berfungsi untuk start atau dimulainya awal proses pemotongan dan tombol warna merah berfungsi untuk tombol stop atau tombol darurat untuk menghentikan sistem bila terjadi kesalahan.

Gambar ke-2 posisi sensor mendeteksi

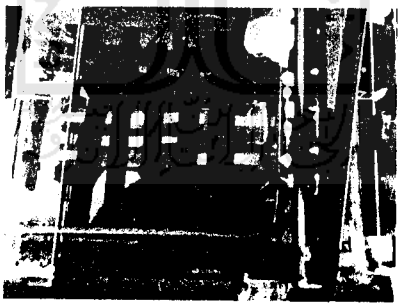


Gambar ke-3 hasil pemotongan digeser oleh *conveyor*.

Gambar ke-4 *conveyor* pengangkut kertas dari pemotongan perlembar.

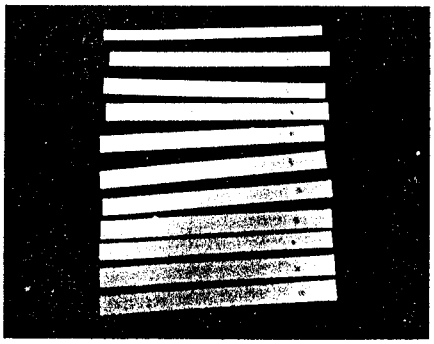


Gambar ke-5 pemasangan kertas linen hitam pada pengujian alat.

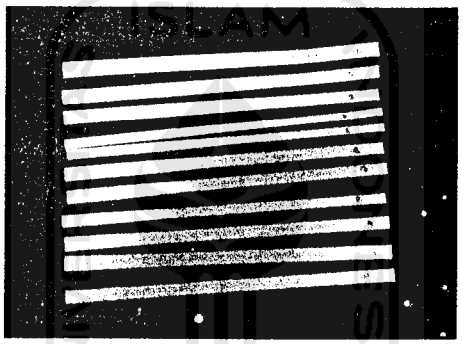


Gambar ke-6 hasil pemotongan kertas linen hitam.

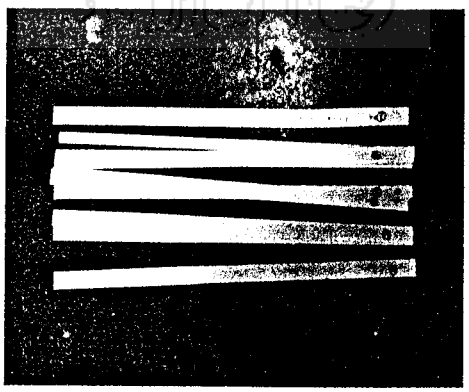
Lampiran 3 hasil pemotongan



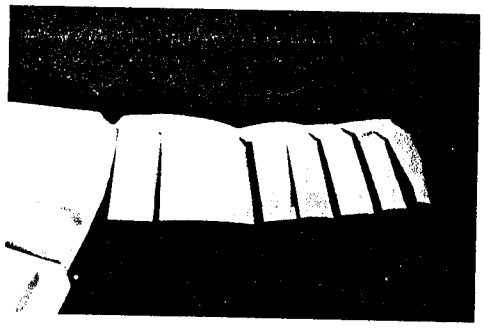
Gambar ke-7 hasil pemotongan jenis kertas gambar dengan *Timer* 3 ms.



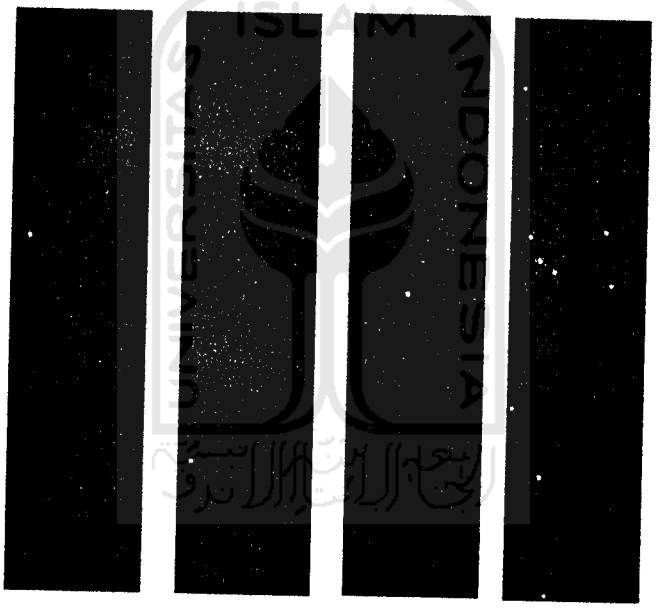
Gambar ke-8 hasil pemotongan jenis kertas gambar dengan *Timer* 2 ms.



Gambar ke-9 hasil pemotongan jenis kertas gambar dengan *Timer* 4 ms.



Gambar ke-10 hasil potongan jenis kertas dufax.



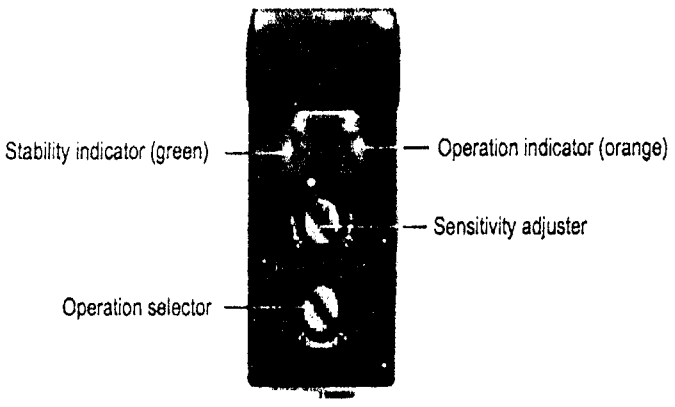
Gambar ke-11 hasil potongan jenis kertas linen hitam.

Lampiran 4 konstruksi dan jenis sensor

Contoh model E3Z

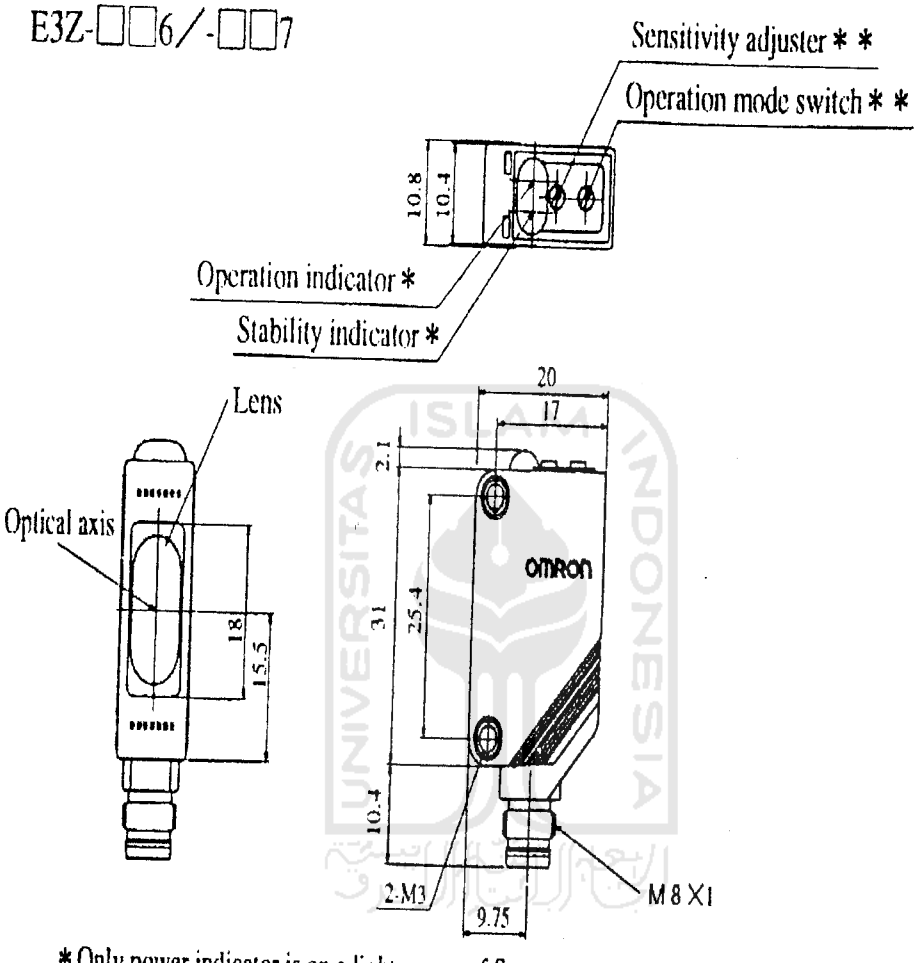
Red light Infrared light

Sensing method	Appearance	Connection method	Sensing distance	Model	
				NPN output	PNP output
Through-beam		Pre-wired (see note 3)	15 m	E3Z-T61	E3Z-T81
		Connector		E3Z-T66	E3Z-T86
Retroreflective (with MSR function)	(see note 1)	Pre-wired (see note 3)	4 m (100 mm) (see note 2)	E3Z-R61	E3Z-R81
		Connector		E3Z-R66	E3Z-R86
Diffuse-reflective		Pre-wired (see note 3)	5 to 100 mm (wide view)	E3Z-D61	E3Z-D81
		Connector		E3Z-D66	E3Z-D86
		Pre-wired (see note 3)	1 m	E3Z-D62	E3Z-D82
		Connector		E3Z-D67	E3Z-D87



Tampak dari depan

Konstruksi dimensi sensor E3Z –D62 *Photoelectric Switch* voltase 12 -24V dc

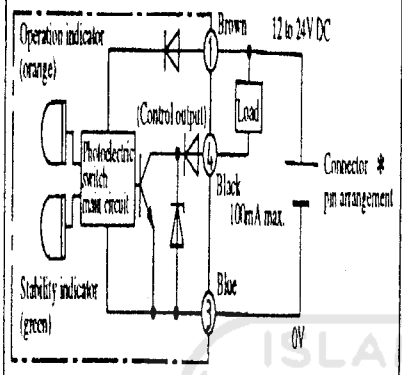
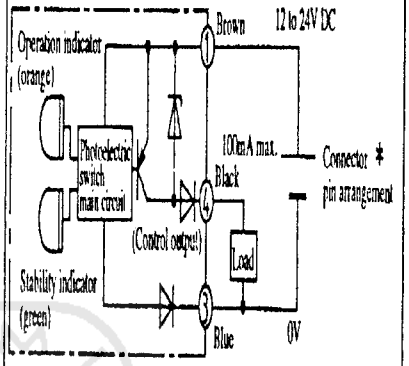


* Only power indicator is on a light source of Separate type.
* * The form differs because a light source of Separate type does not have it.

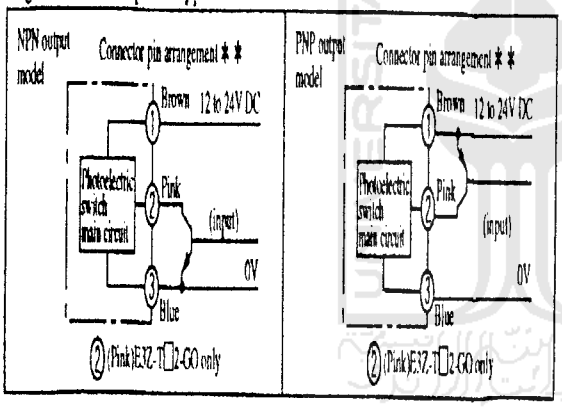
Rating performance

Detection system		Separate type			Retroreflective type	Diffuse reflection type	
Function		Infrared beam type		Red beam type			
Type *	NPN	E3Z-T61/-T66	E3Z-T62/-T67	E3Z-T61A/-T66A	E3Z-R61/-R66	E3Z-D61/-D66	E3Z-D62/-D67
	PNP	E3Z-T81/-T86	E3Z-T82/-T87	E3Z-T81A/-T86A	E3Z-R81/-R86	E3Z-D81/-D86	E3Z-D82/-D87
Detecting distance		15m	30m	10m	0.1 to 4m (with E39-R1S) 0.1 to 3m (with E39-R1)	0.1m (white mat paper 100X100mm)	1m (white mat paper 300X300mm)
Operating angle		Light source/Receiver: 3 to 15°			2 to 10°	–	
Light source (luminescence wavelength)		Infrared LED (870nm)		Red LED (660nm)		Infrared LED (860nm)	
Supply voltage		12 to 24V DC±10% (Ripple (p-p) 10% max.)					
Current consumption		Light source: 15mA max. Receiver: 20mA max.			30mA max.		
Control output		Load supply voltage : 26.4V DC max. Load current : 100mA max. Open collector output (NPN/PNP output, changing with forms) Light-ON/Dark-ON switch selectable					
Residual voltage		1V or less : Load current less than 10mA. 2V or less : Load current less than 10 to 100mA.					
Response time		1ms max.	2ms max.		1ms max.		
Emission stop function type (E3Z-T□2 -G0 only)	input		⟨NPN output model⟩ Emission stop : Connection to 0 to 1.5V DC (source current 0.1mA or less) Normal emission : Open (Leak current 0.1mA or less) ⟨PNP output model⟩ Emission stop : Connection to Vs(supplied voltage) to Vs- 1.5V DC (sink current 3mA or less) Normal emission : Open(Leak current 0.1mA or less)				
	Response time		0.5ms or less				
Ambient temperature		Operating : −25 to +55℃, Storage : −40 to +70℃ (no freezing and condensation)					
Ambient humidity		Operating : 35 to 85%RH, Storage : 35 to 95%RH (no freezing and condensation)					
Protection structure		IEC60529 : IP67					
Materials	Case	Polybutylene Telephthalate resin (PBT)					
	Display	Denatured polyallylate					
	Lens	Denatured polyallylate			Methacrylate resin (PMMA)	Denatured polyallylate	

Output circuit diagram

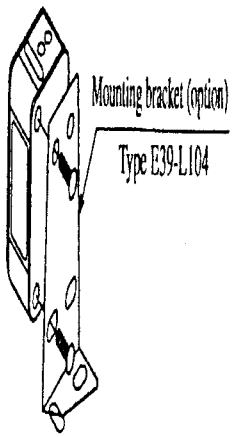
Output	NPN output	PNP output
Type *	E3Z-□6□	E3Z-□8□
Output circuit		

Light source of Separate type

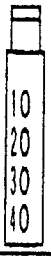


MOUNTING

Use tightening torque 0.5N·m max.



CONNECTOR PIN ARRANGEMENT (TYPE E3Z-□□67, E3Z-□6□/-□8□-M1J, E3Z-□6□/-□8□-M3J, E3Z-□6□/-□8□-M5J, E3Z-□6□/-□8□-ECON)

TYPE E3Z-□6□/-□8□-M1J	TYPE E3Z-□□67, E3Z-□6□/-□8□-M3J	TYPE E3Z-□6□/-□8□-M5J	TYPE E3Z-□6□/-□8□-ECON
			
* Terminal 2 is not used. **Terminal 2 is used E3Z-T□2-GO only Terminal 4 is not used	* Terminal 2 is not used. **Terminal 2 is used E3Z-T□2-GO only Terminal 4 is not used	**Terminal 4 is not used.	* Terminal 2 is not used. **Terminal 2 is used E3Z-T□2-GO only Terminal 4 is not used