

DEESYS

한국검정공사 형식승인품
전자기 적합성 시험필



Earth Leakage and Ground Fault Relay

- Multi Function Earth Leakage Detector and Fire Alarm
- Earth Leakage Fire Alarm and Relay [ELR] 1C, 5C, 10C
 - Earth Leakage Relay [ELR] 1C
- Multi Function Ground Relay [GFR] 5C, 10C
 - Aux Relay Board [Isolation] 5C, 10C
 - Ground Fault Relay 1C

누전경보기 지락검출계전기
(Analog/MICOM) (Analog/MICOM)



Multi Function Earth Leakage Detector & Fire Alarm

누전경보기를 설치해야 할 시설물(소방법 제 29조 3항)

누전경보기를 설치해야 할 소방 대상물(내화구조가 아닌 건축물로서 벽·바닥 또는 반자의 전부나 일부를 불연재료 또는 준불연재료가 아닌 재료에 철망을 넣어 만든 것에 한한다)은 다음과 같다. 다만 가스시설 또는 지하구의 경우에는 그러하지 아니하다.(개정 94.7.20, 97.9.27)
 연면적 500㎡ 이상(업무시설·통신촬영시설 교육연구시설 및 전시시설의 경우에는 1,000㎡이상)인 것(개정 94.7.20)
 계약전류용량(동일 건축물에 계약종변이 다른 전기가 공급되는 경우에는 그중 최대계약전류 용량을 말한다)이 100암페어를 초과하는 것

Facilities requiring installation of leakage detection and fire alarm devices:

(As per the enforcement laws articles 17-8, 18-6, and 19-7 of the laws for prevention and extinguishing of fires)

Objective facilities	Aggregated area	Contract current capacity
Class I facilities per article 17-8 -Theaters, Stadiums -Conference halls, Restaurants -Public markets, Supermarkets -Hotels, Motels -Dorm Inatories -Hospitals -Welfare institution for the seniors -Welfare institution for the handicapped -Kindergartens -Bathhouses	300㎡ or more All lines below same as above	Above 100A All lines below same as above
Class II facilities per article 18-6 -Rail stations & Bus terminals -Passenger's waiting rooms -Churches & Temples -Multi-family housings of 4 stories and up -Schools -Exhibition halls -Factories and Work places	500㎡ or more All lines below same as above	Above 100A All lines below same as above
Class III facilities per article 19.7 -Warehouses -Garages -Hangars	100㎡ or more All lines below same as above	Above 100A All lines below same as above

Earth Leakage Fire Alarm & Relay [ELR]-1C, 5C, 10C



Flush mounted type

Socket type

Features

1. This earth leakage relay have same function with earth leakage detector and is more developed relay that is able to use the external terminal
 ※How to use the external terminal.
 - 1) control at same time trip equipment and earth indicator & detector at same time.
 - 2) using for leakage fault indicator of central control board
 - 3) Use timer for delaying the trip time of C·B on leakage fault

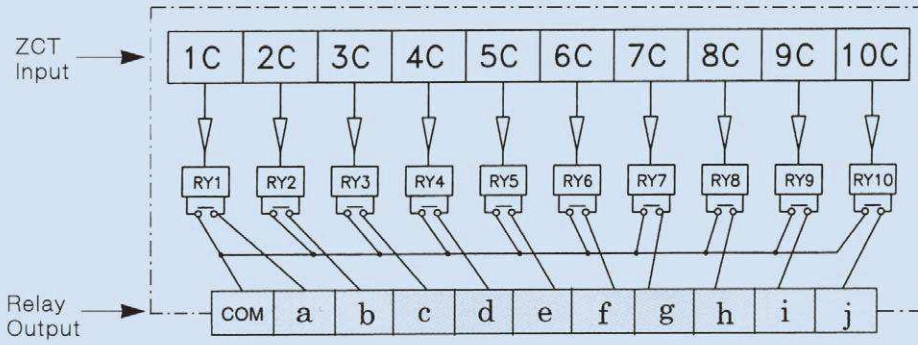
Specification

Description		Micom type		Analog type					
Model No		DER-M10/M05	DER-A10/A05	DER-F03	DER-F11	DER-F12	DER-P03	DER-P11	DER-P12
Type approval No		07-9 07-3	07-8 07-7	승인미필	07-21	07-22	07-15	07-6	07-11
Installation		10c Flush mounted		1c Flush mounted			1c Socket type		
Auxiliary voltage		AC110/220V							
Frequency		50/60Hz							
Nominal operating current(A)		0.2-0.5-1.0		0.03-0.05-0.07-0.1	0.1-0.2-0.3-0.5	0.2-0.5-0.7-1.0	0.03-0.05-0.07-0.1	0.1-0.2-0.3-0.5	0.2-0.5-0.7-1.0
Current	Operating	53%~75% of nominal operating current 1sec 이내							
	Non operating	52% nominal operating current 30sec 이내							
Allowable supply voltage fluctuation		80%~120% of Rated Voltage							
Reset		Manual/Auto(Multi type)				manual			
Warning circuit voltage		Less than AC 600V							
LED indicator		Leakage indicator : Digital Leaking circuit indicator:Digital LED(Red color) Detector indicator:LED(Red color) Power indicator:LED(Green color) ZCT penetrationindicator:LED(Yellow color) Continue/Auto-alarm:LED(Yellow color) Buzzer alarm:LED(Yellow color) Detector alarm indicato:LED(Red color)				Buzzer alarm indicator : LED(Red color) Power indicator:LED(Green color) ZCT penetration indicator:LED(Yellow color) Continue/Auto-alarm:LED(Yellow color) Buzzer alarm:LED(Yellow color)			
Power consumption	Non operating	4.5VA/4VA		9VA/7VA		2.5VA			
	Operating	7VA/6.5VA		10VA/8VA		3VA			
ZCT(Input)		200mA/100mV							
Ambient temperature		-10°C+ 50°C							
Sound level		Buzzer(more than 75dB)							
Insulation resistance		Primary-case		Secondary-case		Primary-Secondary		more than 100M Ω (DC 500V megger)	
Dielectric strength		Primary-case:1500V		Secondary-case:500V		Primary-Secondary:1500V		AC 60Hz, 1minute	
Impulse wave withstand voltage		Between-terminal		Power terminals-case		Peak value : 6.0kV, 1.2/50 μ s			
Vibration strength		On duty:Full wave width 1mm, 1000rpm, 10min, Not on duty:Full wave width 4mm, 1000rpm, 60min							
Mechanical shock resistance		On duty:Natural drop 15times Not on duty:Acceleration of 50g Max force in any direction for 5 times							
Contact capacity		AC 250V 3A, DC 30V 5A							
Rate of fuse		0.2A		0.1A					
Weight		2.0/1.8kg	2.1kg/2.0kg	0.7kg	0.7kg	0.7kg	0.5kg	0.5kg	0.5kg
Casing		ABS Resin/Black N1.5(난연성 Non-flamable)							

※ELR F03 사용시 SZR(니켈코어)을 사용해야 합니다.

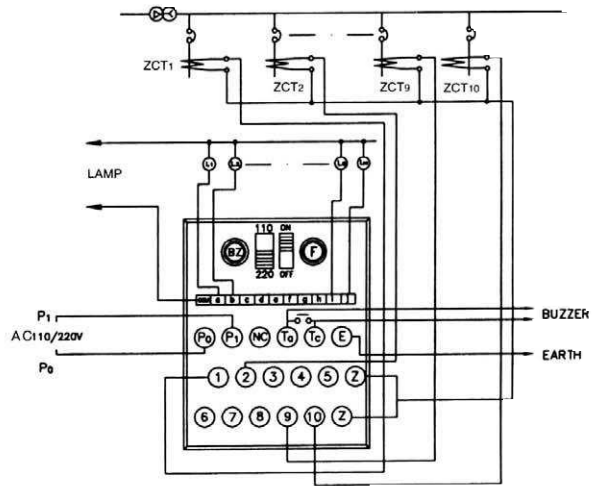
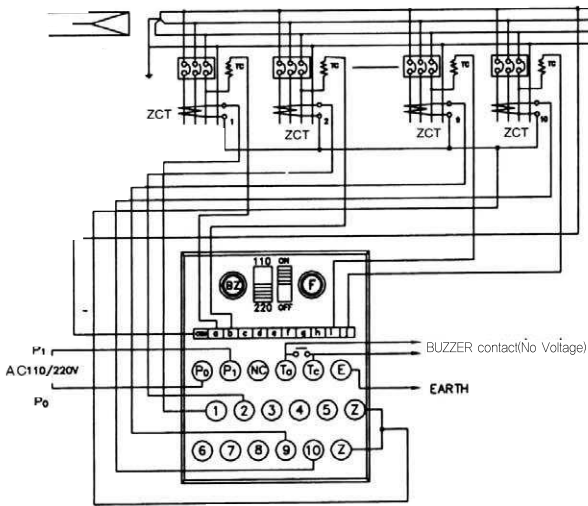
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Internal wiring connections



External wiring of circuit breaking for leakage on load side

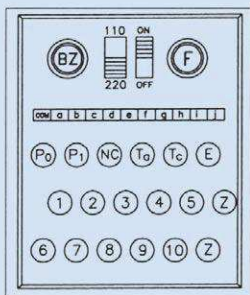
External wiring of central control board leakage fault indicator



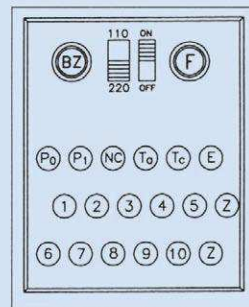
※ ZCT Common단자는 내부에서 연결이되어 있으므로 한단자만 사용해도 됩니다.(10C만 해당)

External terminal arrangement

ELR 10C : DER M10, A10



ELR 5C : DER M05, A05



BZ : BUZZER

AC 110/220V S/W

Power ON/OFF S/W

F : FUSE

a - j : External relay contact (a-contact)

com : External out let relay common contact (a-contact)

P0, P1 : AC 110/220V (Common)

T, Tc : Relay contact alarm

1-10 : ZCT 2ry circuit terminal

Z : ZCT 2ry circuit common terminal

E : earth

NC : Non connection