

## CONSTRUCTION DETAILS:

Marking - Device is marked on adhesive-backed label, designated: Listee's name, file number, or trademarks, Type number and electrical ratings.

"60/75°C, Cu wire only", or equivalent.

"Terminal Torque \_\_ in.-lbs (see Ratings)", or equivalent.  
Torque marking may be provided loose with the equipment.

"Suitable For Use On A Circuit Capable Delivering Not More Than rms Symmetrical Amperes, Volts Maximum. When Protected by Class Fuses.", or equivalent.

The following Trademarks may be used:



## Alternate Trademark



File E206826  
Project 99NK41071

April 19, 2000

REPORT

on

AUXILIARY DEVICES

LG Industrial Systems, Co. Ltd.  
Chung Cheong Bug-Do, Korea

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## DESCRIPTION

## PRODUCT COVERED:

USL, CNL - Industrial Control Equipment - Auxiliary Devices. Digital Electronic overload relay models DMP followed by 06 or 60.

## RATINGS:

Non - ambient compensated, single or three phase, adjustable, Class 10, 20, 30, 40, 50, 60 electronic overload relays with ground fault sensing. Tripping currents are 120% of the dial settings.

Auxiliary Contacts: C600, P600, 3 A @ 250 V ac resistive

Short Circuit: Devices are suitable for use on a circuit delivering not more than 600V, 5 kA for all models as shown below:

Overload Relay Model	Voltage(V ac)	Short Circuit Current	Protective Device	
			Fuse/CB	Class
DMP-06	600	5 kA	20 A TD	RK5
DMP-60	600	5 kA	150 A TD	RK5

Devices have the following adjustable current ranges:

Overload Relay Model	Adjustable Current Range
DMP-06	0.5-6 A
DMP-60	5-60 A

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVES USE):

USL    Complies with UL508

CNL    Complies with CSA C22.2 No. 14-M91

General - These devices are inverse time or definite time, single or three phase, non-ambient compensated, adjustable Class 10, 20, 30, 40, 50, 60 electronic overload relays. All models employ phase loss, phase reversal, and ground fault protection.

## NOMENCLATURE:

Devices are classified in the following manner:

<u>DMP</u>	<u>60</u>	<u>S</u>	<u>E</u>	<u>Z</u>	-	<u>220</u>
I	II	III	IV	V		VI

I - Basic model designation: DMP

II - Maximum current range

06 - Adjustable current range of 0.5 - 6 A

60 - Adjustable current range of 5 - 60 A

III - Terminal Type

S - Screw type

T - Tunnel Type

IV - Display connection type

E - Extension type with cable

No suffix - Display mounts to body.

V - Option codes

Z - Ground fault protection

I - Instantaneous function

No suffix - Basic function

VI - Operating Voltage

110 - 110 V ac

220 - 220 V ac

## CONSTRUCTION DETAILS:

General - Reference may be made to the accompanying Illustration 1 and itemized description pages for the essential details of construction.

Corrosion Protection - All parts of these devices are constructed of corrosion resistive material or are suitably plated or painted as protection against corrosion.

Tolerance - Unless specified otherwise, the indicated dimensions are nominal.

Spacings - Spacings were evaluated per Table 36.1 of UL 508, the Standard for Industrial Control Equipment, 17<sup>th</sup> Edition.

Marking - Ink-Stamped adhesive backed labels secured to or printed on the devices designated with the Listee's name or file number, model number, voltage rating in volts (ac or dc), the number of phases, and if necessary, the frequency. The device may be marked appropriately for the intended use in amperes, volt-amperes or watts, horsepower, or any combination thereof.

Field wiring - Terminals must be marked for tightening torques, wire ranges, conductor material, and insulation temperature rating.

Factory of Field Installed Kits - The following kits may be factory or field installed on devices covered by this Report. The installation instructions must be provided with the kits or with the controllers.

## GENERAL - REPRESENTS MODEL DMP -06 AND -60. - Ill. 1

1. Upper Case - R/C (QMFZ2), Allied Signal, rated 94V0, 140°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	Capron 8232	52 X 76 X 67 mm	0.6

2. Indicator front case - R/C (QMFZ2), Allied Signal, rated 94V0, 140°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	Capron 8232	52 X 76 X 20 mm	0.9

3. Indicator Rear Case - R/C (QMFZ2), Allied Signal, rated 94V0, 140°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	Capron 8232	50 X 74 X 24 mm	0.8

4. Indicator Windows - R/C (QMOS2), GE, rated 94-HB.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	121R-21029	20 X 52 X 2 mm	2.0

5. Indicator Cover - R/C (QMFZ2), Allied Signal, rated 94V0, 140°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	Capron 8232	26.6 X 76 X 6.75	0.9

6. Lower Case [R] - R/C (QMFZ2), GE, rated 94HB, 130°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	PC Lexan	38 X 95 X 44.5 mm	1.0

7. Lower Case [L] - R/C (QMFZ2), GE, rated 94HB, 130°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	PC Lexan	27 X 75 X 42.8 mm	0.8

RM/TL:fsh

DMS

8. Terminal Block - R/C (QMFZ2), Allied Signal, rated 94V0, 60°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	ABS AF 302L	69.6 X 15.5 X 22 mm	1.0

9. Key Pad - Silicon rubber.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	Silicon Rubber	9.4 X 67 X 12 mm	0.5

10. Rail Support - R/C (QMFZ2), Kohap, rated 94V0, 130°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	PA6, APSOM	17.8 X 18.5 X 4.5 mm	0.8

11. Main Terminal Block - R/C (QMFZ2), GE, rated 94HB, 130°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	PC Lexan	35 X 76 X 59 mm	1.0

12. Main Terminal -

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	KSD5201(C2801T)	11 X 84 X 4.1 mm	2.6

13. Finger Proof - R/C (QMFZ2), Allied Signal, rated 94V0, 60°C.

Overload Relay Model	Product Type (Material)	Information	
		Dimensions	Min. Thickness (mm)
DMP all type	ABS AF302L	22 X 55 X 25.8 mm	1.0

14. Relay - R/C (NRNT2), Chung Won, rated 250 V ac, 5 A, 30 V dc 5 A. Three provided on the basic model and two provided on the ground fault model.

Overload Relay Model	Product Type (Material)	Information
DMP all type	CS11-12SH	

15. Bridge Diode - R/C (QQQX2), Shindengen.

Overload Relay Model	Product Type (Material)	Information
DMP all type	SIZB60	Rated -40°C - 150°C

16. Power Transformer - Manufactured by LG, part number PT-P12, Class A insulation system.

The following components are integral to the ground fault sensing circuit:

1. Diode (D1, D2), part number 1N4007.
2. Capacitor (C1) - CHIP 2012, 0.01 uF.
3. Resistor (R1) - CHIP 2012, 412 ? , 1/10 W.
4. Resistor (R2) - CHIP 2012, 120 ? , 1/10 W.
5. Resistor (R3) - CHIP 2012, 33 ? , 1/10 W.
6. Resistor (R4) - CHIP 2012, 17.4 ? , 1/10 W.
7. Resistor (R5) - CHIP 2012, 11 ? , 1/10 W.
8. Resistor (R6) - CHIP 2012, 100 ? , 1/10 W.
9. Dip Switch (SW1) - 4 pole.
10. Capacitor (C2) - CHIP 2012, 0.047 uF.
11. IC (U1) - Manufactured by LG, part number GL7101, rated -55°C - 125°C.