

INDUSTRIAL CONTROL DESIGN AND TROUBLESHOOTING

DESCRIPTION

The CL-900 is a set of motor relay controls designed with strict attention to quality, versatility, and expansion capabilities. Due to the wide variety of motor control types, the CL-900 enables all users to efficiently explore the important aspects of each one. Introduction to various control devices for electric motors. Built using most widely used components in the industry. Quick and easy assembly of control circuits. Safe fault simulation with complete equipment protection. Modular and flexible. Lab manual and software available on request.

Schematic diagrams and specifications are silk screened onto the back of the front panel of each Modupont®. Interconnections between Moduponts® are made with piggy back cords and connections are made through 4 mm ϕ standard color coded safety socket.



EXPERIMENTS

The Consulab CL-900 is complete with a lab manual comprising eighty-seven (87) different experiments divided into fourteen (14) subjects. The subjects are the following:

1. Control pilot devices;
2. Basic contactor control circuits;
3. Two contactor basic control circuits;
4. Signal circuits;
5. Types of control circuit sources;
6. Safety devices;
7. Single phase motor starters;
8. Three phase squirrel cage asynchronous motor starters;
9. Wound rotor motor controllers;
10. Synchronous motor controllers;
11. Direct current motor controllers;
12. Magnetic starters with motor breaking;
13. DC variable speed control motor drives; and,
14. Alternative current rectifier circuits.



Consulab Éducattech Inc.

5100, rue des Tournelles, Suite 500

Québec, QC CANADA G2J 1E4

Phone: 418-688-9067/ 800-567-0791 Fax: 418-688-9526

Email: info@consulab.com Internet : <http://www.consulab.com>

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LIST OF COMPONENTS

DESCRIPTION	QTY	CL-900-00 (60 Hz)	CL-900-50 (50 Hz)
Push-buttons	2	CL-900-01	CL-900-01-50
Selector	1	CL-900-02	CL-900-02-50
Pilot lights	2	CL-900-03	CL-900-03-50
Disconnecter / Circuit breaker	1	CL-900-04	CL-900-04-50
Manual starter	1	CL-900-05	CL-900-05-50
Cam switch	1	CL-900-06	CL-900-06-50
Magnetic starter	1	CL-900-07	CL-900-07-50
Mechanically interlocked contacts with overload relays	1	CL-900-08	CL-900-08-50
AC/DC contacts	2	CL-900-09	CL-900-09-50
Control relay with on-delay contact	1	CL-900-10	CL-900-10-50
Control relay with off-delay contact		CL-900-11	CL-900-11-50
Overload relays	1	CL-900-12	CL-900-12-50
Mechanical interlock	1	CL-900-13	CL-900-13-50
Latching relay	1	CL-900-14	CL-900-14-50
Solid state relay	1	CL-900-15	CL-900-15-50
Sequence control	1	CL-900-16	CL-900-16-50
Limit switch	1	CL-900-17	CL-900-17-50
Static level control	1	CL-900-18	CL-900-18-50
Static proximity switch	1	CL-900-19	CL-900-19-50
Photoelectric detector	2	CL-900-20	CL-900-20-50
SCR thyristor speed controller for DC motors	1	CL-900-21	CL-900-21-50
Control transformer	1	CL-900-22	CL-900-22-50
Power resistors	3	CL-900-23	CL-900-23-50
Diodes	1	CL-900-24	CL-900-24-50
Resistors and capacitors	1	CL-900-25	CL-900-25-50
Terminal block	1	CL-900-26	CL-900-26-50
Fault generating cue and bulb remover	1	CL-900-47	CL-900-47-50
Power supply	1	CL-900-48	CL-900-48-50
Basic cabinet for installing the above moduponents	1	CL-1001-17	
Set of connecting patchcords	1	CL-1012	
Experiment manual with result book		CL-900-97/98	

OPTIONAL EQUIPMENT

DESCRIPTION	CL-900-00 (60 Hz)	CL-900-50 (50 Hz)
Blank moduponent (16.5 x 20.3 cm)	CL-900-28	CL-900-28-50
Blank moduponent (24.7 x 20.3 cm)	CL-900-29	CL-900-29-50
Spare parts	CL-900-03	CL-900-03-50
Synchronous motor*	CL-211-00	CL-211-50
Wound rotor motor*	CL-212-00	CL-212-50
Squirrel cage motor*	CL-213-00	CL-213-50
DC motor*	CL-214-00	CL-214-50
Split-phase/capacitor start motor*	CL-223-00	CL-223-50
Two-speed split-phase induction motor	CL-228-00	CL-228-50
Two-speed motor variable torque	CL-229-00	CL-229-50
Prony brake*	CL-231	
Mechanical load assembly	CL-240-00	CL-240-50
DC Analog Meters*	CL-420-00	CL-420-50
AC Analog Ammeters*	CL-421-00	CL-421-50
AC Analog Voltmeters*	CL-422-00	CL-422-50
Three phase rheostat*	CL-152-00	CL-152-50
Saturable reactor	CL-153-00	CL-153-50
Manual DC starter	CL-132-00	CL-132-50
Portable tachometer*	CL-1003	
Two-section coupling base*	CL-1010	
Rubber coupling*	CL-1007	
Storage cabinet	CL-900-17-2	

* Included in the CL-100, Rotating Machines for 1/3 HP – 250 W

SPECIFICATIONS

DESCRIPTION	CL-900-00	CL-900-50
Input Voltage:	120/208V AC – 3 PH	120/208V AC – 3 PH
Frequency:	60 Hz	50 Hz
Protection:	10 A input breaker	
Dimensions:	76.2 x 121.9 x 30.5 cm (30 x 48 x 12 po)	
Weight:	68.2 kg (150 lbs)	
Product Number:	52018	52019