



## INTRODUCTION

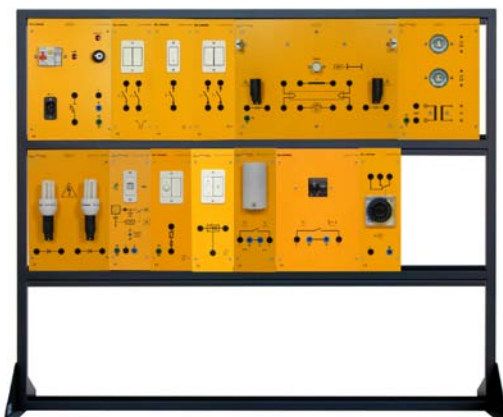
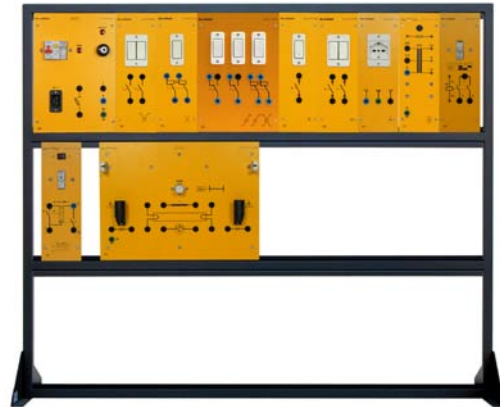
A professional Electrician must provide a safe and reliable electrical service to ensure that all work is in accordance with the relevant National rules. This includes assembling, installing, testing and maintaining electrical wiring, equipment, appliances, etc. An electrician must also diagnose and repair malfunctioning systems, apparatus, and components when a fault is present.

This catalogue illustrates the laboratories for the study of civil installations, where all trainers have modular structure and it consists of didactic panels with symbols and diagrams that are installed on a vertical frame. The modularity of these didactic systems grant to the students a direct and immediate approach to the topic, offering the opportunity to study various subjects performing different experiments.

This laboratory comprehends the following eight configurations:

### DL 2101TA – LIGHTING

- Single-point controlled lighting installation
- Single-point controlled lighting installation with socket
- Switch-controlled two-lamps lighting installation
- Two-point controlled lighting installation
- Three-point controlled lighting installation
- Four-point controlled lighting installation
- Circuit breaking relay controlled lighting installation
- Switching relay controlled lighting installation
- Time relay controlled lighting installation
- Hot-cathode fluorescent lamp installation



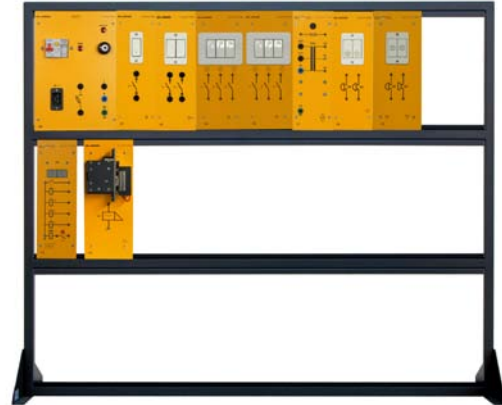
### DL 2101TAS – LIGHTING (ADVANCED)

- Low consumption lamps lighting installation
- Emergency light installation
- Lighting installation controlled by a dimmer
- Lighting installation controlled by a pushbutton light regulator
- Lighting installation controlled by a twilight switch (outdoor type)
- Lighting installation controlled by a presence and twilight switch (indoor type)
- Lighting installation controlled by a timer switch



## DL 2101TB – SIGNALLING

- Signalling installation
- Single-control signalling installation
- Reciprocal control signalling installation
- Light signalling installation
- Ringing installation with doors and main entrance control
- Electric lock ringing installation

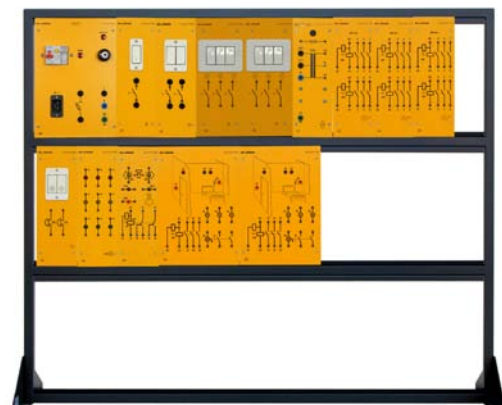


## DL 2101TC – HOUSE PHONES

- Two reciprocal call entry-phone installation at short distance
- Two reciprocal call entry-phone installation at long distance
- Coupled two entry-phone installation
- Main entry-phone and two shunted entry-phones installation
- Communicating entry-phones installation
- Connection between an external unit and two shunted entry-phones

## DL 2101TD – HOTELS/HOSPITALS

- Installation for audience request
- Installation for hotel
- Installation for nurse calling



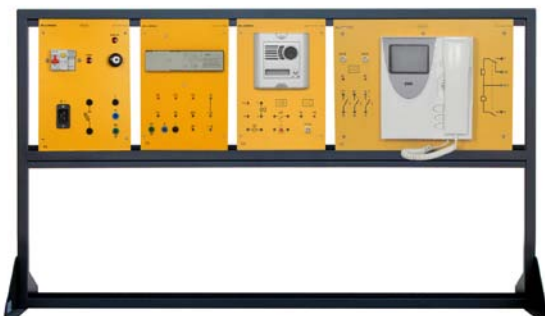


## DL 2101TF – FIRE ALARM SYSTEMS

- Smoke sensor,
- Thermal detector
- Gas detector,
- Emergency pushbutton
- Alarms
- Auxiliary battery
- Control panel

## DL 2101TG – INTRUDER ALARM SYSTEMS

- Microwave sensor
- Infrared passive sensor
- Perimeter sensor
- Blinker
- Alarms
- Auxiliary battery
- Control panel



## DL 2101TH – VIDEO INTERCOM

- Signalling bell installation
- Signalling bell and plate lighting installation
- House-phone installation
- Outdoor video station
- Video/house-phone installation

## DL 2101T – TOTAL CONFIGURATION

This civil installations code (DL 2101T ) includes all the configurations described above and their experiments.



# ELECTRICAL CIVIL INSTALLATIONS



## LIST OF ITEMS FOR THE CONFIGURATIONS:

		DL 2101TA	DL 2101TAS	DL 2101TB	DL 2101TC	DL 2101TD	DL 2101TF	DL 2101TG	DL 2101TH	DL 2101T
DL 2101ALF	Single-phase power supply	1	1	1	1	1	1	1	1	1
DL 2101T02RM	Switches and commutator	1	1							1
DL 2101T04	Intermediate switch	1								1
DL 2101T04RM	Intermediate and 2-way switches	1								1
DL 2101T05	Light pushbutton	1	1	1		1				1
DL 2101T07RM	Bell/door opener pushbuttons	1	1	1		1				1
DL 2101T08	Marked pushbuttons			2		2				2
DL 2101T10	Single-phase mains socket	1								1
DL 2101T11RM	Halogen lamps		1							1
DL 2101T11RM2A	Low consumption fluorescent lamps		1							1
DL 2101T13A	Single-phase transformer	1		1		1				1
DL 2101T14	Latching relays					3				3
DL 2101T15	Stepping relay	1								1
DL 2101T16	Staircase light timer	1								1
DL 2101T17RM	Incandescent and fluorescent lamps	1	1							1
DL 2101T2020	Bells			1		1				1
DL 2101T2021	Bell and buzzer			1						1
DL 2101T23	Display signalling			1						1
DL 2101T24	Electric lock			1						1
DL 2101T26	Entry phone					3				3
DL 2101T26E	Outdoor entry phone					1				1
DL 2101T27C	Power supply					1				1
DL 2101T28	Emergency light		1							1
DL 2101T29	Stand-by battery						1	1		1
DL 2101T30/40	Fire, intrusion and gas alarm control						1	1		1
DL 2101T31	Smoke detector						1			1
DL 2101T32	Thermal detector						1			1
DL 2101T33	Emergency pushbutton						1			1
DL 2101T34RM	Alarms						1	1		1
DL 2101T38RM	Gas detector						1			1
DL 2101T39	Signalling lamps					1				1
DL 2101T41	Microwave sensor							1		1
DL 2101T42	Passive infrared sensor							1		1
DL 2101T43	Perimeter sensor							1		1
DL 2101T44	Blinker							1		1
DL 2101T50	Video camera-monitor power supply								1	1
DL 2101T51/52	Video camera and outdoor station								1	1
DL 2101T53	Indoor monitor/intercom								1	1
DL 2101T60	Nurse board					1				1
DL 2101T61	Patient room					2				2
DL 2101T100	Dimmer		1							1
DL 2101T101	Pushbutton light regulator		1							1
DL 2101T111	Twilight switch		1							1
DL 2101T112	Presence and twilight sensor		1							1
DL 2101T113	Timer switch		1							1
DL 2100-2M	Two-level frame				1		1	1	1	
DL 2100-3M	Three-level frame	1	1	1		1				2
TL 2101T	Connecting leads	1	1	1	1	1	1	1	1	1

Module necessary in case the local voltage is different from 230 Vac (not included in the configuration):

DL 2101T13AT	Autotransformer	1
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