

# CONTROL GEAR/DIN TERMINALS

New New



AC contactors  
page 239

New New



Time delay  
control blocks  
page 240

New New



Thermal  
overload relays  
page 239

New New



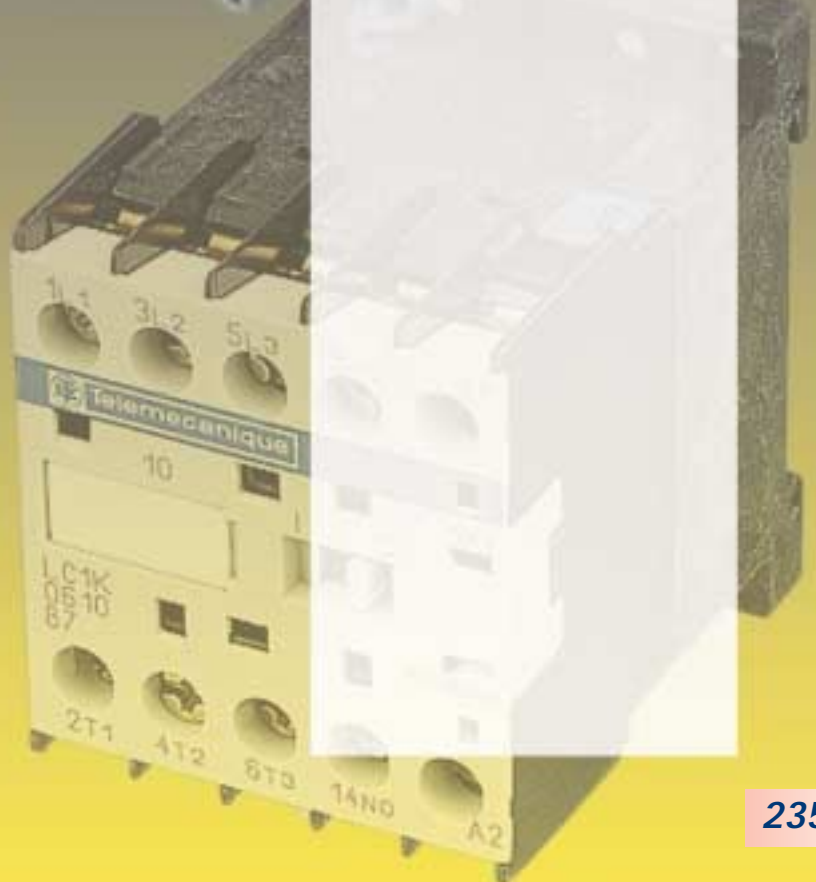
DIN rail terminals  
page 248

New New



Auxiliary  
contact blocks  
page 239

Auxiliary contact blocks	241
Coil suppressor modules	241
Contact blocks	239-241, 244
Contactors	239-241
Control relays	242
Control station	242
DIN rail interface modules	249-250
DIN rail terminals	248
DIN rails	249
Emergency stop button	242-244
Interface modules	250
Key operated switch	244
Overload relays	239-240
PLCs	236
Push button switches	244
Push switches	245
Stop station	242
Terminals	248
Thermal overload relays	239-242



## SmartRelay relay/timer

SmartRelay replaces conventional relays and timers and is easily programmed in Windows or from its built in display. The units incorporate delay functions, real time 7 day clock and counters. 4 relay outputs can switch 10A, and a choice of 6 or 8 inputs is available. Insertable RAM or EPROM memory gives added flexibility. Units can be ordered with or without HMI and are available in a variety of voltages to suit most applications. **VDE, IEC, UL, CSA, FM** approved. A manual is also available allowing the user to programme the timer without the need for the Windows software. Comprehensive data available upon request.



IEDEC

- Din rail mounting IP20 casing
- Program from front display or Win 95/98 & NT compatible
- Plug-in RAM or EPROM memory for volume programming
- HMI optional
- 6 digital inputs standard; 2 digital/analogue inputs extra
- 4 relay outputs switch 10A
- Timer Functions: On/Off Delay; Latch; Impulse;
- Up and Down Counters

Input type	Output type	Supply	RTC	HMI	IEDEC Part No.	Order code
6 dig, 2 dig/ana	4 transistor	24VDC	N	Y	FL1A-H12SND	28-1200
6 dig, 2 dig/ana	4 relay	12/24VDC	Y	Y	FL1A-H12RCE	28-1202
6 digital	4 relay	24VAC	Y	Y	FL1A-H10RCA	28-1204
6 digital	4 relay	100/240VAC	Y	Y	FL1A-H10RCB	28-1206
6 dig, 2 dig/ana	4 relay	12/24VDC	Y	N	FL1A-B12RCE	28-1208
6 digital	4 relay	24VAC	Y	N	FL1A-B10RCA	28-1210
6 digital	4 relay	100/240VAC	Y	N	FL1A-B10RCB	28-1212

4 transistor output	Order code	1+	5+	10+
6 dig, 2 dig/ana 24VDC relay	28-1200	84.00	79.80	75.60
<b>4 relay output</b>				
6 dig, 2 dig/ana 12/24VDC relay	28-1202	88.00	83.60	79.20
6 dig. 24VAC relay	28-1204	88.00	83.60	79.20
6 dig, 100/240VAC relay	28-1206	88.00	83.60	79.20
6 dig, 2 dig/ana 12/24VDC relay	28-1208	72.00	67.40	64.80
6 dig, 4 relay 24VAC relay	28-1210	72.00	68.40	64.80
6 dig, 4 relay 100/240VAC relay	28-1212	72.00	68.40	64.80
Yellow Card RAM	28-1214	14.00	13.30	12.60
Red Card EPROM	28-1216	14.00	13.30	12.60
Programming manual	28-1222	25.00	23.75	22.50
Cable to PC	28-1218	49.00	46.50	44.00
Windows Program. Software	28-1220	39.00	37.00	35.00
Data sheet for SmartRelay	99-1206	No charge		

## Micro Smart PLC

Micro Smart is a brick sized PLC from IDEC, expandable to 88 I/O. Extended analogue capacity gives up to 8 analogue in and 4 analogue out. Various plug-in options include real time clock, HMI display and communications. Additional memory is available, and up to 32 units may be networked. Programming via Windows is compatible with on-line simulation. Comprehensive data available on request.



IEDEC

Technical specification Description	IEDEC part no.	Order code
<b>Base units</b>		
CPU module 85-264V AC 10 I/O	FC4A-C10R2B	28-1030
CPU module 85-264V AC 16 I/O	FC4A-C16R2B	28-1032
CPU module 85-264V AC 24 I/O	FC4A-C24R2B	28-1034
<b>Expansion units</b>		
8 channel 24V DC input	FC4A-N08B1	28-1036
16 channel 24V DC input	FC4A-N16B1	28-1038
4 channel 24V DC input, 4 channel relay output	FC4A-M08BR1	28-1040
8 channel relay output	FC4A-R081	28-1042
16 channel relay output	FC4A-R161	28-1044
8 channel transistor sink output	FC4A-T08K1	28-1046
8 channel transistor source output	FC4A-T08S1	28-1048

	Order code	1+	2+	4+
<b>Base units</b>				
CPU module 85-264V AC 10 I/O	28-1030	89.00	84.50	80.00
CPD module 85-264V AC 16 I/O	28-1032	129.00	122.50	116.00
CPU module 85-264V AC 24 I/O	28-1034	169.00	160.50	152.00
<b>Expansion modules</b>				
8 channel 24V DC input	28-1036	45.00	42.80	40.50
16 channel 24V DC input	28-1038	70.00	66.50	63.00
4 channel 24V DC input, 4 channel relay o/p	28-1040	60.00	57.00	54.00
8 channel relay output	28-1042	65.00	61.80	58.50
16 channel relay output	28-1044	85.00	81.00	76.50
8 channel transistor sink output	28-1046	55.00	52.20	49.50
8 channel transistor source output	28-1048	55.00	52.20	49.50
<b>Modules and software</b>				
RS232C comms. board MiniDIN	28-1050	20.00	19.00	18.00
RS485 comms. board MiniDIN	28-1052	20.00	19.00	18.00
RS485 comms. board terminal	28-1054	20.00	19.00	18.00
Real time clock module	28-1056	20.00	19.00	18.00
32K memory cartridge	28-1058	18.00	17.10	16.20
64K memory cartridge	28-1060	23.00	21.90	20.70
10-way terminal block (2pcs.)	28-1062	12.00	11.40	10.80
11-way terminal block (2pcs.)	28-1064	12.00	11.40	10.80
Direct mounting strip (pk. of 5)	28-1066	4.00	3.80	3.60
Windows v4.0 programming software	28-1070	154.00	146.50	138.50
Data sheet on Micro Smart	99-1200	No charge		

## Immediate Delivery

All orders are normally shipped via overnight carrier. We can also arrange same day delivery. Contact our Sales Department for details

**OpenNet PLC**

The OpenNet Controller from IDEC is an interchangeable PLC compatible with major industrial bus systems – Interbus, DeviceNet and LonWorks. This open network architecture gives total flexibility when designing more powerful, less costly systems or when adding into an existing bus scheme. The modular construction will give up to 480 I/O and up to 5122 remote I/O. Data can be configured 'keep' or 'clear' upon CPU power down. The program comes with password protection, calendar and clock. Communication facilities are advanced, using the built-in Hayes 'AT' command set. The WindLDR programming software is standard across the range of IDEC PLCs. CPUs have 2 RS232 and 1 RS485 ports and 16K memory. There is a choice of high speed counter with sink or source output. Inputs can have nylon connectors or terminal blocks. A comprehensive data sheet is available on request.



IDEC

**SX5 Series smart I/O interfaces**

The IDEC SX5 Series smart I/O's are a networking solution which can reduce wiring, installation downtime and debugging costs. The modules communicate with Interbus, DeviceNet and LonWorks, eliminating compatibility issues. Each SX unit is available with either 16 point transistor or 8 point relay output, 16 point transistor input or 8 point transistor input and 8 point transistor output. Inputs and outputs are available as sink or source. Removable terminal blocks give easy maintenance. Data available upon request.



IDEC

Technical specification	IDEC part no.	Order code
<b>CPU and inputs</b>		
CPU Module HSC sink output	FC3A-CP2K	28-1100
CPU Module HSC source output	FC3A-CP2S	28-1102
16ch, 24V DC, terminal block	FC3A-N16B1	28-1104
16ch, 24V DC, nylon connector	FC3A-N16B3	28-1106
32ch, 24V DC, nylon connector	FC3A-N32B4	28-1108
8ch, 110V AC, terminal block	FC3A-N08A11	28-1110
6ch, analogue, terminal block	FC3A-AD1261	28-1112
<b>Output modules</b>		
16ch, relay, 2A, terminal block	FC3A-R161	28-1114
16ch, relay, 2A, nylon connector	FC3A-R162	28-1116
16ch, sink, 24V DC, terminal block	FC3A-T16K1	28-1118
16ch, sink, 24V DC, nylon connector	FC3A-T16K3	28-1120
16ch, source, 24V DC, terminal block	FC3A-T16P1	28-1122
32ch, sink, 24V DC, nylon connector	FC3A-T32K41	28-1124
2ch, analogue, 12bit, terminal block	FC3A-DA1221	28-1126
<b>Accessories</b>		
Expansion module (8-15 modules)	FC3A-EA1	28-1128
Remote I/O master module – InterBus	FC3A-SX5SM1	28-1130
Remote I/O interface module – DeviceNet	FC3A-SX5DS1	28-1132
Remote I/O interface module – LonWorks	FC3A-SX5LS1	28-1134
Remote I/O interface module – InterBus	FC3A-SX5SS1	28-1136
WindLDR V3.0 programming software	FC9Y-LP2ECDW	28-1138
FAPROGiec software	FC9Y-MP1ECDW	28-1140
PC to PLC Cable – 3m	FC2A-KC4C	28-1142

CPU and inputs	Order code	1+	2+	4+
CPU Module HSC sink output	28-1100	289.00	274.50	260.00
CPU Module HSC source output	28-1102	289.00	274.50	260.00
16ch, 24V DC, terminal block	28-1104	92.00	87.40	82.80
16ch, 24V DC, nylon connector	28-1106	92.00	87.40	82.80
32ch, 24V DC, nylon connector	28-1108	116.00	110.00	104.50
8ch, 110V AC, terminal block	28-1110	105.00	99.80	94.50
6ch, analogue, terminal block	28-1112	262.00	249.00	235.80
<b>Output modules</b>				
16ch, relay, 2A terminal block	28-1114	121.00	115.00	109.00
16ch, relay, 2A, nylon connector	28-1116	121.00	115.00	109.00
16ch, sink, 24V DC terminal block	28-1118	105.00	99.80	94.50
16ch, sink, 24V DC, nylon connector	28-1120	105.00	99.80	94.50
16ch, source, 24V DC, terminal block	28-1122	121.00	115.00	109.00
32ch, sink, 24V DC, nylon connector	28-1124	121.00	115.00	109.00
2ch, analogue, 12bit, terminal block	28-1126	262.00	249.00	235.80
<b>Accessories</b>				
Expansion module (8-15 modules)	28-1128	66.00	62.70	59.40
Remote I/O master module – Interbus	28-1130	289.00	274.50	260.00
Remote I/O interface module – Device NET	28-1132	184.00	174.80	165.50
Remote I/O interface module – lonWorks	28-1134	184.00	174.80	165.50
Remote I/O interface module – Interbus	28-1136	184.00	174.80	165.50
WindLDE v4.0 programming software	28-1138	154.50	146.80	139.00
FAPROGiec software	28-1140	154.50	146.80	139.00
PC to PLC Cable – 3m	28-1142	25.00	23.75	22.50
Data sheet on OpenNet	99-1202	No Charge		

Technical specification	IDEC part No.
<b>Device Net</b>	
24VDC, 16 point input source	SX5D-SBN16S
24VDC, 16 point input sink	SX5D-SBN16K
240VAC/24VDC, 5A, 8 point relay O/P	SX5D-SBR08
24VDC, 0.5A, 16 point transistor O/P sink	SX5D-SBT16K
24VDC, 0.5A, 16 point transistor O/P source	SX5D-SBT16P
24VDC 8 point input source, 8 point transistor O/P sink	SX5D-SBM16K
24VDC 8 point input sink, 8 point transistor O/P source	SX5D-SBM16P
<b>InterBus</b>	
24VDC, 16 point input source	SX5S-SBN16S
24VDC, 16 point input sink	SX5S-SBN16K
240VAC/24VDC, 5A, 8 point relay O/P	SX5S-SBR08
24VDC, 0.5A, 16 point transistor O/P sink	SX5S-SBT16K
24VDC, 0.5A, 16 point transistor O/P source	SX5S-SBT16P
24VDC 8 point input source, 8 point transistor O/P sink	SX5S-SBM16K
24VDC 8 point input sink, 8 point transistor O/P source	SX5S-SBM16P
<b>LonWorks</b>	
24VDC, 16 point input source	SX5L-SBN16S
24VDC, 16 point input sink	SX5L-SBN16K
240VAC/24VDC, 5A, 8 point relay O/P	SX5L-SBR08
24VDC, 0.5A, 16 point transistor O/P sink	SX5L-SBT16K
24VDC, 0.5A, 16 point transistor O/P source	SX5L-SBT16P
24VDC 8 point input sink, 8 point transistor O/P sink	SX5L-SBM16K
24VDC 8 point input sink, 8 point transistor O/P source	SX5L-SBM16P

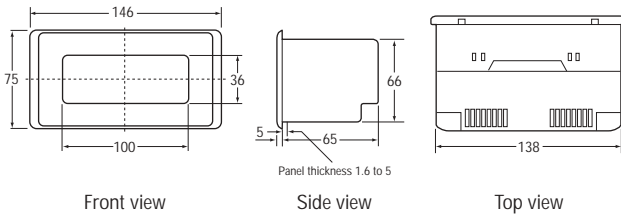
Devicenet	Order code	1+	2+	4+
24VDC, 16 point input source	28-1150	189.00	179.50	170.00
24VDC, 16 point input sink	28-1152	189.00	179.50	170.00
240VAC/24VDC, 5A, 8pt relay O/P	28-1154	184.00	175.00	165.50
24VDC, 0.5A, 16pt transistor O/P sink	28-1156	189.00	179.50	170.00
24VDC, 0.5A, 16pt transistor O/P source	28-1158	215.00	204.00	193.50
24VDC 8pt I/P source, 8pt transistor O/P sink	28-1160	189.00	179.50	170.00
24VDC 8pt I/P sink, 8pt transistor O/P source	28-1162	203.00	192.90	182.70
<b>Interbus</b>				
24VDC, 16pt input source	28-1164	168.00	159.50	151.00
24VDC, 16pt input sink	28-1166	168.00	159.50	151.00
240VAC/24VDC, 5A, 8pt relay O/P	28-1168	163.00	155.00	146.20
24VDC, 0.5A, 16 point transistor O/P sink	28-1170	168.00	159.50	151.00
24VDC, 0.5A, 16 pt transistor O/P source	28-1172	194.00	184.30	174.50
24VDC 8pt I/P source, 8pt transistor O/P sink	28-1174	168.00	159.50	151.00
24VDC 8pt I/P sink, 8 pt trans O/P source	28-1176	181.00	171.90	163.00
<b>LonWorks</b>				
24VDC, 16 point input source	28-1178	173.00	164.40	155.70
24VDC, 16 point input sink	28-1180	173.00	164.40	155.70
240VAC/24VDC, 5A, 8 point relay O/P	28-1182	168.00	159.50	151.00
24VDC, 0.5A, 16 point transistor O/P sink	28-1184	173.00	164.40	155.70
24VDC, 0.5A, 16pt transistor O/P source	28-1186	199.00	189.00	179.00
24VDC 8pt I/P source, 8pt transistor O/P sink	28-1188	173.00	164.40	155.70
24VDC 8pt I/P sink, 8pt transistor O/P source	28-1190	186.00	176.70	167.40
Data Sheet	99-1204	No Charge		

## Monochrome touchscreen

IDEC



A monochrome touchscreen with a sleek, compact design, the HG1B has a host of features to give faster, brighter interfacing. There are 48 individual touch regions on up to 100 configurable pages. Memory size is 127Kb and the response time is a fast 300ms. Features include the ability to change pages on screen, address alarms, toggle digital data and ramp analogue values. Two built-in communication ports, RS485 and RS232, and an optional RS422. Alarm functions come with internal buzzer and corresponding flashing screen. Software is Windows based.



Technical specification		
Type	Item	Description
Electrical	Rated voltage	24V dc ripple factor: 10% max.
	Voltage variation range	85 to 120% of rated voltage
	Power consumption	10W maximum
	Momentary power interruption	10 msec maximum
	Inrush current	10A maximum
Environmental	Dielectric strength	1500V ac, 10ms, 1 hour (between power or O/I terminal and ground)
	Insulation resistance	50MΩ min. (500V dc megger)
	Operating temperature range	0-55°C (operation), 0-50°C (display contrast)
	Operating humidity range	10-90% RH
	Storage temperature	-20 to +70°C
	Storage humidity	5-90% RH (non-condensing)
	Vibration resistance	10 to 55Hz, 9.8m/s <sup>2</sup> (2 hours each in X, Y & Z axes)
Structural	Shock resistance	98 m/s <sup>2</sup> (5 times in the X, Y & Z axes)
	Noise resistance	IEC 1000-4 compliant, 1000V p-p, 1µs: 1ns to power supply (tested using noise simulator)
On-screen touch switches	Static electricity resistance	6kV (from a static electricity simulator)
	Usable atmosphere	No corrosive gases
	Installation configuration	Panel mounting
	Panel cutout	5.433" (138mm) x 2.60" (66mm)
	Degree of protection	IP65
Display specifications	Outside dimensions	5.7" (146mm) x 2.9" (75mm) x 2.73" (70mm)
	Weight	450g approximate
	Operating method	Pressure sensitive matrix
	Touch points	12x4=48
Display characters	Operating force	1 Newton (approx. 100gf) maximum
	Life	1,000,000 times minimum
	Character size	Up to 6 lines with 32 characters per line
Display software specifications	Lines	Up to 6 lines with 32 characters per line
	Graphics	Displays any bitmap image; library of bitmaps included with configuration software
Display pages	Up to 100 text/graphic pages	
	Pop-up numeric entry keypad	
Touch points	Up to 48 touch points per page	
	Toggle digital points on/off, ramp values up/down, change presets, change pages, acknowledge alarms	
Operator feedback	Visual/audible feedback of touch input	
	Buzzer	For alarming purposes
Text	User definable as static or dynamic	
	Backlight	User definable: backlight colour can be flashed based on alarm condition

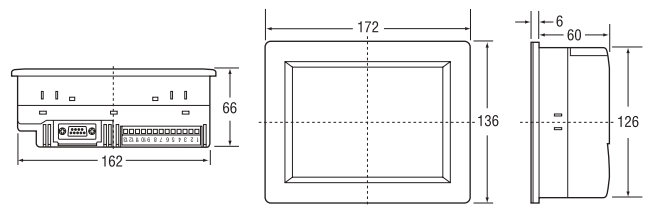
	Order code	1+	2+	4+
Monochrome HG1B touchscreen	28-0900	399.00	379.00	359.00
Windows programming software	28-0902	75.00	71.50	67.50
Maintenance cable	28-0904	49.00	46.50	44.00
PLC connection cable	28-0906	49.00	46.50	44.00
HG1B data sheet	28-0908	No charge		

## Colour touchscreens

IDEC



The HG2A series are feature packed, colour touchscreens providing the user with more answers simply because they give you more of the options and features you're looking for: communication drivers for most PLC brands, easy to read colour LCD screen, speedy response time and a real-time clock for superior trending capabilities. IP65 rated the screens are available with RS232 or RS485 communication ports and configuration software for customising on any Windows based PC. Up to seventy touch regions on one hundred and fifty pages, up to sixty alarms and facility to import any bitmap image. Communications drivers are available for most PLC brands.



Technical specification		
Type	Item	Description
Electrical	Rated voltage	24V dc ripple factor: 10% max.
	Voltage variation range	85 to 120% of rated voltage
	Power consumption	15W maximum
	Momentary power interruption	10 msec maximum
	Inrush current	40A maximum
Environmental	Withstanding voltage	1500V ac, 10mA for 1 minute
	Insulation resistance	50MΩ min. (500V dc megger)
	Operating temperature range	0-55°C
	Operating humidity range	20-85% RH (no condensation)
	Storage temperature	-25 to +65°C (colour)
	Storage humidity	20-85% RH (no condensation)
	Vibration resistance	10 to 55Hz, 9.8m/s <sup>2</sup> (2 hours each in X, Y & Z axes)
Structural	Shock resistance	98 m/s <sup>2</sup> (5 times in the X, Y & Z axes)
	Noise resistance	IEC-801-4 compliant, 1000V p-p, 1µs: 1ns (tested using noise simulator)
Static electricity resistance	Usable atmosphere	No corrosive gases
	Installation configuration	Panel mounting
	Panel cutout	6.4" (162.5mm) x 4.98" (126.5mm)
	Weather resistance	IP65 (with water resistant cover installed)
	Outside dimensions	6.77" (172mm) x 5.35" (136mm) x 2.6" (66mm)
Touch switches	Weight	1000g approximate
	Operating method	Pressure sensitive matrix
	Touch points	Up to 70 per page
	Operating force	1 Newton (approx. 100gf) maximum
Display specifications	Life	1,000,000 times minimum
	Device	Colour display
	Effective colour display	5.5" STN 8-colour LCD
Backlight	Number of pixels	4.38" (111.34mm) x 3.29" (83.49mm)
	Light source	320 x 240
Memory	Operating life	CCFT (cold cathode fluorescent tube)
	BMP files	10,000 hours
Display characters	Data and components	64K
	Graphics	215K
Display pages	Total	279K
	Numeric data entry	Displays any colour or monochrome bitmap image

Functional specifications		
Item	Specification	Condition
Display pages	Up to 150 text/graphic pages	
Numeric data entry	Numeric entry keypad	
Touch points	Up to 70 touch points per page	
Touch functions	Toggle digital points on/off, ramp values up/down, change presets, change pages, acknowledge alarms	
Operator feedback	Visual/audible feedback of touch input	
Buzzer	For alarming purposes	
Text	User definable as static or dynamic	
Backlight	User definable: backlight colour can be flashed based on alarm condition	

	Order code	1+	2+	4+
RS232 colour touchscreen	28-0910	999.00	949.00	899.00
RS485 colour touchscreen	28-0912	999.00	949.00	899.00
Windows programming software	28-0902	75.00	71.50	67.50
Maintenance cable	28-0904	49.00	46.50	44.00
PLC connection cable	28-0906	49.00	46.50	44.00
HG2A data sheet	28-0916	No charge		

**AC Contactors** New New *Telemecanique + Controls (India)*

A popular range of dual frequency (50/60Hz) contactors specially designed for heavy duty industrial applications complying with IEC947-4-1 and with full UL and CSA approval. These contactors can operate from -50 to +70°C and at altitudes up to 3000 metres. The basic units have 3 main contacts, up to 5 additional contact elements can be fitted using side mounted or top mounted auxiliary contact modules. The protective terminal covers meet IP20 and the mechanical life is a minimum of 20 million (16 million 25A+) operations at either 50 or 60Hz and can perform at 3 operations per second. Suitable for DIN rail and screw fixing. Two contactors and a mechanical interlock will allow reversing pairs to be made up.



Technical specification				
Actuating voltages	24V ac, 110V ac, 230V ac and 415V ac			
Ambient temperature range	-50 to +70°C			
Dimensions	Height	width	depth	
	9A, 12A	74	45	80
	18A	74	45	85
	25A	84	56	93
	32A	84	56	98
	40A, 50A, 65A	127	75	114
	80A	127	85	125

Coil	Contact	Order code	1+	5+	10+	20+
<b>9A, 4kW (AC3)</b>						
24V	1NO	28-1250	12.30	11.05	9.85	8.70
110V	1NO	28-1252	12.30	11.05	9.85	8.70
230V	1NO	28-1254	12.30	11.05	9.85	8.70
415V	1NO	28-1256	12.30	11.05	9.85	8.70
24V	1NC	28-1258	12.30	11.05	9.85	8.70
110V	1NC	28-1260	12.30	11.05	9.85	8.70
230V	1NC	28-1262	12.30	11.05	9.85	8.70
415V	1NC	28-1266	12.30	11.05	9.85	8.70
<b>12A, 5.5kW (AC3)</b>						
24V	1NO	28-1268	14.20	11.90	10.65	9.35
110V	1NO	28-1270	14.20	11.90	10.65	9.35
230V	1NO	28-1272	14.20	11.90	10.65	9.35
415V	1NO	28-1274	14.20	11.90	10.65	9.35
24V	1NC	28-1276	14.20	11.90	10.65	9.35
110V	1NC	28-1278	14.20	11.90	10.65	9.35
230V	1NC	28-1280	14.20	11.90	10.65	9.35
415V	1NC	28-1282	14.20	11.90	10.65	9.35
<b>18A, 9kW (AC3)</b>						
24V	1NO	28-1284	17.50	16.50	14.80	12.95
110V	1NO	28-1286	17.50	16.50	14.80	12.95
230V	1NO	28-1288	17.50	16.50	14.80	12.95
415V	1NO	28-1290	17.50	16.50	14.80	12.95
24V	1NC	28-1292	17.50	16.50	14.80	12.95
110V	1NC	28-1294	17.50	16.50	14.80	12.95
230V	1NC	28-1296	17.50	16.50	14.80	12.95
415V	1NC	28-1298	17.50	16.50	14.80	12.95
<b>25A, 11kW (AC3)</b>						
24V	1NO	28-1300	25.30	23.65	21.10	18.60
110V	1NO	28-1302	25.30	23.65	21.10	18.60
230V	1NO	28-1304	25.30	23.65	21.10	18.60
415V	1NO	28-1306	25.30	23.65	21.10	18.60
<b>32A, 15kW (AC3)</b>						
24V	1NO	28-1308	33.90	32.50	29.00	25.50
110V	1NO	28-1310	33.90	32.50	29.00	25.50
230V	1NO	28-1312	33.90	32.50	29.00	25.50
415V	1NO	28-1314	33.90	32.50	29.00	25.50
<b>40A, 22kW (AC3)</b>						
24V	1NO+1NC	28-1316	44.90	39.05	34.90	30.70
110V	1NO+1NC	28-1318	44.90	39.05	34.90	30.70
230V	1NO+1NC	28-1320	44.90	39.05	34.90	30.70
415V	1NO+1NC	28-1322	44.90	39.05	34.90	30.70
<b>50A, 25kW (AC3)</b>						
24V	1NO+1NC	28-1324	57.40	51.40	45.20	39.05
110V	1NO+1NC	28-1326	57.40	51.40	45.20	39.05
230V	1NO+1NC	28-1328	57.40	51.40	45.20	39.05
415V	1NO+1NC	28-1330	57.40	51.40	45.20	39.05
<b>65A, 37kW (AC3)</b>						
24V	1NO+1NC	28-1332	77.50	67.50	60.25	53.00
110V	1NO+1NC	28-1334	77.50	67.50	60.25	53.00
230V	1NO+1NC	28-1336	77.50	67.50	60.25	53.00
415V	1NO+1NC	28-1338	77.50	67.50	60.25	53.00
<b>80A, 45kW (AC3)</b>						
24V	1NO+1NC	28-1340	93.50	86.70	77.40	68.00
110V	1NO+1NC	28-1342	93.50	86.70	77.40	68.00
230V	1NO+1NC	28-1344	93.50	86.70	77.40	68.00
415V	1NO+1NC	28-1346	93.50	86.70	77.40	68.00

**Thermal overload relays** New New *Telemecanique & Controls (India)*

A range of three pole thermal overload relays for direct mounting onto the TC1 contactor range above for the protection of single or three phase motors. Featuring phase failure, stalled rotor, overload and ambient temperature compensation (-40 to +60°C). Fitted with 1 NO and 1 NC clean contacts for fault and alarm circuit signalling. UL and CSA approved and manufactured in accordance with IEC 947-4. Manual or auto set is selectable.



Technical specification			
Dimensions	Height	Width	Depth
9A, 12A and 18A	118	45	98
25A, 32A	140	56	98
40A, 50A and 65A	175	75	125
80A	180	85	130

Range	Contact	Order code	1+	5+	10+	20+
0.25-0.4	9A	28-1360	15.00	13.55	12.05	11.05
0.4-0.63	9A	28-1362	15.00	13.55	12.05	11.05
0.63-1.0	9A	28-1364	15.00	13.55	12.05	11.05
1.0-1.65	9A	28-1366	15.00	13.55	12.05	11.05
1.6-2.5	9A	28-1368	15.00	13.55	12.05	11.05
2.5-4.0	9A	28-1370	15.00	13.55	12.05	11.05
4.0-6.0	9A	28-1372	15.00	13.55	12.05	11.05
5.5-8.0	9A	28-1374	15.00	13.55	12.05	11.05
7.0-10.0	9A	28-1376	15.00	13.55	12.05	11.05
9.0-13.0	12A	28-1378	15.80	13.85	12.30	11.25
12.0-18.0	18A	28-1380	19.20	17.30	14.90	12.50
17.0-25.0	25A	28-1382	21.50	19.20	17.10	15.50
23.0-32.0	32A	28-1384	28.00	25.50	22.10	20.30
30.0-40.0	32A	28-1386	28.00	25.50	22.10	20.30
23.0-32.0	40A	28-1388	32.00	28.90	26.50	24.00
30.0-40.0	40A	28-1390	32.00	28.90	26.50	24.00
37.0-50.0	65A	28-1392	40.30	36.00	32.50	29.70
48.0-65.0	65A	28-1394	42.20	38.00	34.50	31.20
63.0-80.0	80A	28-1396	50.30	45.20	41.00	37.40

**Auxiliary contact blocks** New New *Telemecanique & Controls (India)*

All blocks fit the TC1 range of contactors and control relays featured above - one front and two side mounting blocks per contactor or relay. Simple snap-on mounting with mechanical lock requiring no tools. Terminals protected to IP20. Thermal rating of 10A 660V ac. If front mounted 33mm is added to the depth; if side mounted 12.5mm is added to the width.



Contacts	Order code	1+	5+	10+	20+
<b>Front mounting</b>					
2NC	28-1400	3.05	2.95	2.79	2.64
4NC	28-1402	5.50	5.22	4.95	4.67
1NO + 1NC	28-1404	3.05	2.95	2.79	2.64
1NO + 3NC	28-1406	5.50	5.22	4.95	4.67
2NO	28-1408	3.05	2.95	2.79	2.64
2NO + 2NC	28-1410	5.50	5.22	4.95	4.67
3NO + 1NC	28-1412	5.50	5.22	4.95	4.67
4NO	28-1414	5.50	5.22	4.95	4.67
<b>Side mounting</b>					
1NO + 1NC	28-1416	3.05	2.95	2.79	2.64
2NO	28-1418	3.05	2.95	2.79	2.64

## Mechanical interlocks

**New New**

Telemecanique & Controls (India)

Suitable for interlocking two TC contactors such that only one contactor can be operated at any one time.



Contactor	Order code	1+	5+	10+	20+
9A – 32A	28-1420	4.90	4.55	4.34	4.10
40A – 63A	28-1422	7.90	7.40	7.00	6.65
80A	28-1424	7.90	7.40	7.00	6.65

## Time delay contact blocks

**New New**

Telemecanique & Controls (India)

Pneumatically operated timers which mount onto the front of the TC contactors or thermal overload relay giving a timed output signal, delay-on or delay-off. 1NO and 1NC contacts are provided. Rated at 10A (max 660V). Repeat accuracy ±2%. Additional depth is 52mm.



Timing	Order code	1+	5+	10+	20+
<b>Delay-on</b>					
0.1 – 3s	28-1430	27.00	25.70	24.25	22.95
1 – 30s	28-1432	27.00	25.70	24.25	22.95
10 – 180s	28-1434	27.00	25.70	24.25	22.95
<b>Delay-off</b>					
0.1 – 3s	28-1436	27.00	25.70	24.25	22.95
1 – 30s	28-1438	27.00	25.70	24.25	22.95
10 – 180s	28-1440	27.00	25.70	24.25	22.95

## 'DIL E' range Contactors

Moeller

Moeller range of compact miniature 4kW contactors for cost and space saving applications. Moeller contactors offer a guaranteed lifespan, on all ranges for all applications. Easy installation - suitable for DIN rail mounting or screw fixing. Safety is built in - complete with 3 main poles and normally open auxiliary contact. Terminals have finger protection to IP20. CSA, UL, ASE, SEV, NEMKO and SEMKO approved.



Technical specification	
Main contact rating	4kW
Ambient temperature range	-25 to +50°C
Mechanical operational life	10 million cycles
Dimensions(when mounted)	58(h)x45(w)x52(d)

Type	Moeller type	Order code
24V 4kW contactor with 1NO contact	DILEM-1024V	28-0500
110V 4kW contactor with 1NO contact	DILEM-10110V	28-0502
240V 4kW contactor with 1NO contact	DILEM-10240V	28-0504

Coil	Order code	1+	5+	10+	20+
24V ac	28-0500	13.50	12.40	11.95	11.20
110V ac	28-0502	13.50	12.40	11.95	11.20
240V ac	28-0504	13.50	12.40	11.95	11.20

## Thermal overload relays for 'DIL E' contactors

Moeller

ZE series overload relays for direct fitting to DIL E contactors. The devices have single phase sensitivity and are temperature compensated from -25 to +50 deg C. The ZE overloads have one normally open and one normally closed electrically separated auxiliary contacts. For testing purposes there is a test button fitted as standard. The ZE can be set in the Hand or Auto condition. Terminals have finger protection to IP20. UL and CSA approved.



Motor flc	Type	Order code	1+	5+	10+	20+
0.16-0.24	ZE0.24	28-0510	19.30	18.80	17.70	16.50
0.24-0.4	ZE0.4	28-0512	19.30	18.80	17.70	16.50
0.4-0.6	ZE0.6	28-0514	19.30	18.80	17.70	16.50
0.6-1.0	ZE1.0	28-0516	19.30	18.80	17.70	16.50
1.0-1.6	ZE1.6	28-0518	19.30	18.80	17.70	16.50
1.6-2.4	ZE2.4	28-0520	19.30	18.80	17.70	16.50
2.4-4	ZE4	28-0522	19.30	18.80	17.70	16.50
4-6	ZE6	28-0524	19.30	18.80	17.70	16.50
6-9	ZE9	28-0526	19.30	18.80	17.70	16.50

## Auxiliary contact blocks for 'DIL E' contactors

Moeller

Top mounting snap-fit blocks to increase the number of contacts available without increasing the width of the contactor. Contact markings conform to EN50011 and the contacts are rated at 10A thermal current.



Technical specification	
Function	Moeller type
1 NO and 1 NC auxiliary contacts	11DILEM
2 NO and 2 NC auxiliary contacts	22DILEM
	Order code
	28-0530
	28-0532

	Order code	1+	5+	10+	20+
11DILEM	28-0530	3.80	3.65	3.50	3.30
22DILEM	28-0532	6.70	6.50	6.30	6.05

## Mechanical interlock for 'DIL E' contactors

Moeller

A mechanical interlock for the 'DIL E' range of contactors.



	Order code	1+	5+	10+	20+
	28-0540	4.25	3.95	3.60	3.35

**'D' range Contactors**

A range of contactors having 3 N/O main poles and 1 N/O auxiliary contact set. All terminals have protection to IP20 and are marked to international standards. Suitable for DIN rail or screw fixing. See page 249 for suitable DIN rails. Coil suppressor modules supplied separately, see **order codes 28-0100/28-0102**.

Telemecanique



Technical specification	
Maximum rated voltage (IEC947-1)	1000V
Aux.contact rating (IEC 337-1)	10A $I_{th} \leq 55^\circ C \leq 690V$
Coil voltages	24V AC 50/60Hz
	110V AC 50/60Hz
	240V AC 50Hz
	24V DC
Coil power: (Pull in)	70VA
Hold on	8VA
Approvals	UL, CSA, SEV, NEMKO, DEMKO, BV, GL, USSR, LRoS and RINA
Conforms to	IEC and CENELEC standards
Dimensions: LC1D09, D12	74(h) x 45(w) x 80(d)mm
LC1D18	74(h) x 45(w) x 85(d)mm

Coil	Manfrs type	Order code	1+	3+	6+	12+
<b>9A, 4kW (AC3)</b>						
24V AC	LC1D0910B7	28-0010	16.80	15.80	14.85	14.65
110V AC	LC1D0910F7	28-0012	16.80	15.80	14.85	14.65
240V AC	LC1D0910U7	28-0014	16.80	15.80	14.85	14.65
24V AC	LP1D0910BD	28-0016	31.10	29.25	27.49	25.84
<b>12A, 5.5kW (AC3)</b>						
24V AC	LC1D1210B7	28-0018	20.10	18.90	17.75	16.70
110V AC	LC1D1210F7	28-0020	20.10	18.90	17.75	16.70
240V AC	LC1D1210U7	28-0022	20.10	18.90	17.75	16.70
24V AC	LP1D1210BD	28-0024	32.84	30.85	28.99	27.25
<b>12A, 9kW (AC3)</b>						
24V AC	LC1D1810B7	28-0026	24.85	23.35	21.95	20.65
110V AC	LC1D1810F7	28-0028	24.85	23.35	21.95	20.65
240V AC	LC1D1810U7	28-0030	24.85	23.35	21.95	20.65
24V AC	LP1D1810BD	28-0032	42.80	40.25	37.85	35.59

**Thermal overload relays**

A range of three pole thermal overload relays for direct mounting onto 'D2' range contactors for the protection of single or three phase motors. Fitted with 1NO and 1NC electrically isolated contacts for fault and alarm circuit signalling the relays feature phase failure, stalled motor, overload and ambient temperature compensation (-15 to +55°C). Other features include:

Telemecanique



- Dial setting for accuracy
- Manual or auto reset selectable
- Stop and reset functions separated
- Trip test and indication
- UL and CSA approved
- Transparent protective cover
- Meets IEC 947-4

Technical specification	
Contact rating (thermal)	5A $\leq 600V$
Dimensions (when mounted onto contactor)	118(h) x 45(w) x 98(d)mm

Motor f/c range (A)	Manfr. type	Order code	1+	3+	6+	12+
0.63 to 1.0	LR2D1305	28-0050	19.05	17.95	16.90	15.90
1.0 to 1.6	LR2D1306	28-0052	19.05	17.95	16.90	15.90
1.6 to 2.5	LR2D1307	28-0054	19.05	17.95	16.90	15.90
2.5 to 4.0	LR2D1308	28-0056	19.05	17.95	16.90	15.90
4.0 to 6.0	LR2D1310	28-0058	19.05	17.95	16.90	15.90
5.5 to 8.0	LR2D1312	28-0060	19.05	17.95	16.90	15.90
7.0 to 10.0	LR2D1314	28-0062	19.05	17.95	16.90	15.90
9.0 to 13.0	LR2D1316	28-0064	20.05	18.90	17.75	16.70
12.0 to 18.0	LR2D1321	28-0066	23.00	21.60	20.30	19.10
17.0 to 25.0	LR2DD1322	28-0068	25.55	23.99	22.55	21.20

**Coil suppressor modules**

An RC suppressor module providing protection to circuits which are susceptible to high frequency interference. Simply plug into contactors and control relays. Suitable for use with D2 contactor range. Coil voltage at switch off is limited to 3 times nominal voltage. Oscillating frequency 400Hz max.

Telemecanique



Voltage	Manfr. type	Order code	1+	3+	6+	12+
24V AC/DC	LA4DE1E	28-0100	5.45	5.10	4.80	4.51
110/240V AC	LA4DE1U	28-0102	5.45	5.10	4.80	4.51

**Auxiliary contact blocks**

Contact blocks suitable for the D2 range of contactors and control relays - one front and two side mounting blocks per contactor. The block simply snaps into position with a positive mechanical lock. Terminals protected to IP20. Contact rating 10A 660V AC.

Telemecanique



Contacts	Manfr. type	Order code	1+	3+	6+	12+
<b>Front mounting</b>						
1 NO + 1 NC	LA1DN11	28-0080	4.30	4.10	3.85	3.65
2 NO + 2 NC	LA1DN22	28-0082	7.70	7.25	6.85	6.45
3 NO + 1 NC	LA1DN31	28-0084	7.70	7.25	6.85	6.45
4 NO	LA1DN40	28-0086	7.70	7.25	6.85	6.45
1 NO + 3 NC	LA1DN13	28-0088	7.70	7.25	6.85	6.45
4 NC	LA1DN04	28-0090	7.70	7.25	6.85	6.45
<b>Side mounting</b>						
1 NO + 1 NC	LA8DN11	28-0098	5.75	5.40	5.10	4.80

**'K' range Contactors**

A range of miniature contactors and accessories designed to meet the requirements of IEC 947 with following features:

Telemecanique



- Protection against direct finger contact to **VDE0106**
- Positive operating auxiliary contacts per **INRS** and **BIA** spec.
- Circuit separation in accordance with **VDE0106** and **IEC536**

The contactors are suitable for direct control of 3-phase motors up to 4kW AC3 and can be DIN rail or screw mounted, see page 249 for suitable DIN rail. Contactors will accept a 2 or 4 pole auxiliary block plus plug-in coil suppressor.

Technical specification		20A $\leq 50^\circ C$
Main contact rating AC1	AC3	see below
Auxiliary contact thermal current	6A	
max. rated voltage	660V	
Coil power pull-in	30VA	
hold-on	4.5VA	
Temperature range	-25 to +50°C	
Approvals	UL, CSA, DEMKO, NEMKO and SEMKO	
Conforms to	IEC947, NFC63-110 and VDE0660	

Coil	Manfr. type	Order code	1+	3+	6+	12+
<b>6A, 2.2kW (AC3) 3 pole + 1 NO aux</b>						
24V AC	LC1K0610B7	28-0150	12.45	10.95	9.65	8.50
110V AC	LC1K0610F7	28-0152	12.45	10.95	9.65	8.50
240V AC	LC1K0610U7	28-0154	12.45	10.95	9.65	8.50
24V DC	LP1K0610BD	28-0156	15.15	13.35	11.75	10.35
<b>9A, 4kW (AC3) 3 pole + 1 NO aux</b>						
24V AC	LC1K0910B7	28-0158	13.10	11.95	10.90	9.95
110V AC	LC1K0910F7	28-0160	13.10	11.95	10.90	9.95
240V AC	LC1K0910U7	28-0162	13.10	11.95	10.90	9.95
24V DC	LP1K0910BD	28-0164	15.95	14.05	12.35	10.90

## Control relays

Four pole control relays for use with the 'K' range of contactors conforming to international standards. Positive operating contacts as required by INRS and BIA. Relays may be fitted with one 2 pole or 4 pole auxiliary contact block.

Telemecanique



Technical specification	
Contact rating	10A ≤ 50°C
Coil power: AC types	4.5VA (30VA inrush)
DC types	2.4W
Dimensions	58(h) x 45(w) x 57(d)mm

Coil voltage	Manfr. type	Order code	1+	3+	6+	12+
<b>4 NO contacts</b>						
24V AC	CA2KN40B7	28-0240	12.80	12.05	11.35	10.70
110V AC	CA2KN40F7	28-0242	12.80	12.05	11.35	10.70
240V AC	CA2KN40U7	28-0244	12.80	12.05	11.35	10.70
24V DC	CA3KN40BD	28-0246	15.80	14.85	13.95	13.15
<b>3 NO + 1 NC contacts</b>						
24V AC	CA2KN31B7	28-0248	12.80	12.05	11.35	10.70
110V AC	CA2KN31F7	28-0250	12.80	12.05	11.35	10.70
240V AC	CA2KN31U7	28-0252	12.80	12.05	11.35	10.70
24V DC	CA3KN31BD	28-0254	15.80	14.85	13.95	13.15
<b>2 NO + 2 NC contacts</b>						
24V AC	CA2KN22B7	28-0256	12.80	12.05	11.35	10.70
110V AC	CA2KN22F7	28-0258	12.80	12.05	11.35	10.70
240V AC	CA2KN22U7	28-0260	12.80	12.05	11.35	10.70
24V DC	CA3KN22BD	28-0262	15.80	14.85	13.95	13.15

## Thermal overload relays

A range of thermal overload relays for direct mounting onto K range contactors. Selectable manual or auto reset, trip test indicator, pre-wired maintaining contact for connection into contactor and 1 NO and 1 NC auxiliary contacts.

Telemecanique



Technical specification	
Contact rating (thermal)	6A ≤ 600V
Dimensions (when mounted onto contactor)	116(h) x 45(w) x 65(d)mm

Motor f/c range (A)	Manfr. type	Order code	1+	3+	6+	12+
0.54 to 0.8	LR2K0305	28-0170	15.55	14.65	13.80	13.00
0.8 to 1.12	LR2K0306	28-0172	15.55	14.65	13.80	13.00
1.2 to 1.8	LR2K0307	28-0174	15.55	14.65	13.80	13.00
1.8 to 2.6	LR2K0308	28-0176	15.55	14.65	13.80	13.00
2.6 to 3.7	LR2K0310	28-0178	15.55	14.65	13.80	13.00
3.7 to 5.5	LR2K0312	28-0180	15.55	14.65	13.80	13.00
5.5 to 8.0	LR2K0314	28-0182	15.55	14.65	13.80	13.00

## Auxiliary contact blocks

A range of auxiliary contact blocks which simply snap-fit onto the front of the 'K' range of contactors or control relays (with the exception of 4 pole blocks which cannot be fitted to control relays). Full finger protection in a wide range of contact arrangements. Contact rating (thermal) 6A.

Telemecanique



Contacts	Manfr. type	Order code	1+	3+	6+	12+
1 NO + 1 NC	LA1KN11	28-0190	3.35	3.20	3.00	2.85
2 NO + 2 NC	LA1KN22	28-0192	5.85	5.50	5.20	4.90
1 NO + 3 NC	LA1KN13	28-0194	5.85	5.50	5.20	4.90
4 NC	LA1N04	28-0196	5.85	5.50	5.20	4.90
3 NO + 1 NC	LA1KN31	28-0198	5.85	5.50	5.20	4.90
4 NO	LA1KN40	28-0200	5.85	5.50	5.20	4.90

## Start push-button control station

Camden

Double insulated push button control station conforming to IEC947 and VDE0660. Fully assembled with flush face, 22mm push-button giving IP65 protection, in a case with two PG15 knock-out fittings. Normally open contact block.



Technical specification	
Contacts	SPST
Contact rating	6A
Dimensions	80x73x102mm
Protection	IP65
Temperature range	-25° to +70°C
Manfrs. part No.	SC1-10

	Order code	1+	5+	10+
Control station	78-2160	7.70	6.60	6.10

## Start/stop push button control station

Camden

A double insulated push button control station conforming to IEC947 and VDE0660. Supplied fully assembled with flush face buttons; green start button and red stop button, providing protection to IP65 in a case with two PG16 knock out fittings. Each actuator is fitted with 1 set of NO contacts and these will accept one additional contact block if required.



Technical specification	
Contacts	SPST
Contact rating	(AC15) 6A @ 230V AC
Dimensions	80 x 160 x 61mm
Protection	IP65
Temperature range	-25° to +70°C
Manfrs. part Nos.	Control station NO block NC block
	SC2-10 R10 R01

	Order code	1+	5+	10+
Control station	78-2184	15.50	13.30	12.25
Contact block 1 NO	78-2186	1.95	1.67	1.55
Contact block 1 NC	78-2188	1.95	1.67	1.55

## Centre reset emergency stop button

Camden

An emergency stop button featuring a large flat faced stop button with a centre release. Status is clearly indicated on the face of the stop button. Two PG13.5 cable entry cut-outs are provided. Conforms to international standard IEC947, VDE0660.



Technical specification	
Contacts	SPST
Contact rating	(AC15) 6A @ 230V AC
Dimensions	80 x 73 x 50mm
Approvals	UL and CSA
Protection	IP66
Temperature range	-25° to +70°C
Manfrs. part No.	SCI-90

	Order code	1+	5+	10+
Flat face emergency stop button	78-2182	11.90	10.20	9.35



**EN418 mushroom head emergency stop**

Camden

An IP65 mushroom head emergency stop featuring a safety snap twist to release stop button. The positive break normally closed contact block is joined directly to the operator. Conforms to **EN418, IEC947, NDE0660, UL** and **CSA** approved.



Technical specification				
Contacts	SPST			
Contact rating	6A			
Dimensions	80 x 73 x 102mm			
Protection	IP65			
Temperature range	-25° to +70°C			
Manufacturers part no.	SC1-20			
	Order code	1+	5+	10+
SC1-20 control station	78-2162	14.30	12.35	11.35

**Enclosed emergency stop station - IP66**

Camden

A mushroom head emergency stop unit featuring twist to release stop button. Two PG13.5 cable entry cut-outs are provided. Conforms to international standard **IEC947-5-1, VDE0660**.



Technical specification				
Contacts	SPST			
Contact rating	(AC15) 6A @ 230V AC (DC13) 6A @ 24V DC			
Dimensions	80 x 73 x 77mm			
Approvals	<b>UL and CSA</b>			
Protection	IP66			
Temperature range	Contact block joins direct to operator -25° to +70°C			
Manfrs. part No.	SC1-50			
	Order code	1+	5+	10+
Emergency stop button	78-2180	14.60	12.60	11.60

**EN418 mushroom head emergency stop with position indicator**

Camden

AN IP65 mushroom head emergency stop unit featuring a safety snap twist release stop button with red and green position indicator. The positive break normally closed contact block is joined directly to the operator. Conforms to **EN418, EN81, EC947, VDE0660, UL** and **CSA** approved.



Technical specification				
Contacts	SPST			
Contact rating	6A@230V AC			
Dimensions	80 x 73 x 102mm			
Protection	IP65			
Temperature range	-25° to +70°C			
Manufacturers part no.	SC1-30			
	Order code	1+	5+	10+
SC1-30 control station	78-2164	14.80	12.75	11.75

**Short handle selector switch**

Camden

This short handled three position selector switch is illuminated for ease of position identification. After selection the switch will remain fixed in the desired position. Supplied complete with mounting block. **Camden type ISN1E**.



	Order code	1+	5+	10+	25+
Selector switch	78-2190	5.20	4.55	3.95	3.65

**Mushroom head key-to-release emergency stop station**

Camden

A mushroom head emergency stop unit featuring key to release stop button. Conforms to **IEC947, UDE0660, UL and CSA** approved. Protection to **IP65** and fitted with one normally closed contact block.

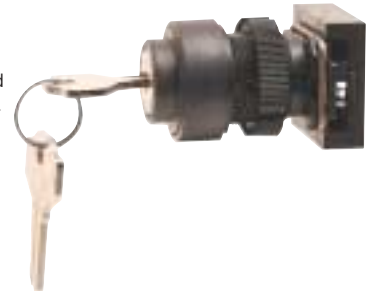


Technical specification				
Contacts	SPST			
Contact rating	6A@230V DC			
Dimensions	80x73x102mm			
Protection	IP65			
Temperature	25 to 70°C			
Manfrs. part No.	SC1-60			
	Order code	1+	5+	10+
SC1-60 control station	78-2166	11.90	10.50	9.70

**Key selector switch**

Camden

A key operated selector two position switch. The switch remains in the first position and has a spring return on the second position back to the first position. The key is only removable in the first fixed position. Supplied complete with mounting block. **Camden ISC1CD-RD/V**.



	Order code	1+	5+	10+	25+
Key selector switch	78-2192	8.50	7.50	6.48	5.97

**Emergency stop**

Camden

A push to 'stop' and twist to 'release' mushroom head of 40mm size. The button head has three GREEN status indicators that turn RED when the button is activated and return to the Green when the button is deactivated by twisting. Supplied complete with mounting block. **Camden type IPFB-1N-2**.



	Order code	1+	5+	10+	25+
Emergency stop	78-2194	11.65	10.25	8.85	8.15

## Momentary mushroom head Emergency stop

Camden

A 35mm head momentary stop button complete with mounting block. The button does not have to be reset after it has been activated. **Camden type IPF2.**



	Order code	1+	5+	10+	25+
Momentary switch	<b>78-2196</b>	<b>4.35</b>	<b>3.80</b>	<b>3.29</b>	<b>3.03</b>

## Flush face push button switch

Camden

A flush mount non-illuminated push button switch. The button face is green and is supplied complete with mounting block. **Camden type IPR3.**



	Order code	1+	5+	10+	25+
	<b>78-2430</b>	<b>2.85</b>	<b>2.48</b>	<b>2.15</b>	<b>1.98</b>

## Contact blocks and lamp holders

Camden

A range of contact blocks and lamp holders for the buttons featured above.



### Technical specification

Type	Camden type	Order code
1 normally closed contact block	C01B	78-2432
1 normally open contact block	C10B	78-2434
Bulb holder 250V direct PSU element	BL9SB	78-2440
Bulb holder 30V element with resistor	BR24-B	78-2442
Bulb holder 110/130V element with resistor	BR110-B	78-2444
Bulb holder 250V element with resistor and diode	BR220-B	78-2446

	Order code	1+	5+	10+	25+
	<b>78-2432</b>	<b>2.05</b>	<b>1.78</b>	<b>1.55</b>	<b>1.43</b>
	<b>78-2434</b>	<b>2.05</b>	<b>1.78</b>	<b>1.55</b>	<b>1.43</b>
	<b>78-2440</b>	<b>1.85</b>	<b>1.62</b>	<b>1.40</b>	<b>1.30</b>
	<b>78-2442</b>	<b>2.95</b>	<b>2.60</b>	<b>2.25</b>	<b>2.07</b>
	<b>78-2444</b>	<b>3.85</b>	<b>3.35</b>	<b>2.90</b>	<b>2.67</b>
	<b>78-2446</b>	<b>4.50</b>	<b>3.95</b>	<b>3.40</b>	<b>3.13</b>

## 22.5mm switch push buttons

RAAS

A range of push button switches designed for 22.5mm diameter panel cutouts. Fully sealed to **IP65**. Manufactured by the Control Group they are fully interchangeable with other popular series. Supplied complete with mounting block. Flush push button with metal bezel. A full range of accessories are also available.



	Order code	1+	5+	10+	25+
White	<b>78-3700</b>	<b>1.60</b>	<b>1.50</b>	<b>1.40</b>	<b>1.25</b>
Black	<b>78-3702</b>	<b>1.60</b>	<b>1.50</b>	<b>1.40</b>	<b>1.25</b>
Green	<b>78-3704</b>	<b>1.60</b>	<b>1.50</b>	<b>1.40</b>	<b>1.25</b>
Red	<b>78-3706</b>	<b>1.60</b>	<b>1.50</b>	<b>1.40</b>	<b>1.25</b>
Amber	<b>78-3708</b>	<b>1.60</b>	<b>1.50</b>	<b>1.40</b>	<b>1.25</b>
Blue	<b>78-3710</b>	<b>1.60</b>	<b>1.50</b>	<b>1.40</b>	<b>1.25</b>

## Short handle selector switches

RAAS

Short handle selector switches. Compatible with Telemecanique ZB2 series. Two styles are available; 2 position stay put and 3 position stay put with centre off. Fully sealed to **IP65**.



	Order code	1+	5+	10+	25+
2 position stay put	<b>78-3712</b>	<b>3.80</b>	<b>3.60</b>	<b>3.40</b>	<b>3.10</b>
3 position stay put	<b>78-3714</b>	<b>4.10</b>	<b>3.90</b>	<b>3.55</b>	<b>3.30</b>

## Key selector switches

RAAS

Key selector switches with keys removable in both positions. Fully interchangeable with the Telemecanique ZB2 series. Fully sealed to **IP65**. Supplied complete with mounting block. Available in 2 styles; 2 position stay put or 3 position stay put with centre off position. All metal construction.



	Order code	1+	5+	10+	25+
2 position stay put	<b>78-3716</b>	<b>5.20</b>	<b>4.95</b>	<b>4.60</b>	<b>4.35</b>
3 position stay put	<b>78-3718</b>	<b>5.40</b>	<b>5.15</b>	<b>4.80</b>	<b>4.40</b>

## Lamp holders

RAAS

Lamp holders available with either direct connections or with diode and series resistor for use on 110-230V supplies. Supplied with mounting block. Compatible with the Telemecanique ZB2 series. Fully sealed to **IP65**. For suitable BA9s lamps see page 375.



	Order code	1+	5+	10+	25+
Direct contact	<b>78-3720</b>	<b>1.95</b>	<b>1.80</b>	<b>1.65</b>	<b>1.55</b>
110-230V	<b>78-3722</b>	<b>2.15</b>	<b>2.00</b>	<b>1.80</b>	<b>1.62</b>

## Emergency stops

RAAS

### - 40mm mushroom head

A range of press to lock emergency stop buttons available in 3 styles; twist to release, key to release and pull to release (to latest machine safety directives). Fully sealed to **IP65**. All fitted with red buttons.



	Order code	1+	5+	10+	25+
Twist to release	<b>78-3724</b>	<b>3.60</b>	<b>3.30</b>	<b>3.05</b>	<b>2.80</b>
Key to release	<b>78-3726</b>	<b>6.95</b>	<b>6.60</b>	<b>6.25</b>	<b>5.80</b>
Pull to release	<b>78-3728</b>	<b>3.60</b>	<b>3.30</b>	<b>3.05</b>	<b>2.80</b>

## Contact blocks

RAAS

Contact blocks to suit the above switches. Available with normally open or normally closed contacts.



	Order code	1+	5+	10+	25+
Normally open	<b>78-3730</b>	<b>1.30</b>	<b>1.20</b>	<b>1.10</b>	<b>0.98</b>
Normally closed	<b>78-3732</b>	<b>1.30</b>	<b>1.20</b>	<b>1.10</b>	<b>0.98</b>

**22.5mm control units**



Designed specifically for the European market, this comprehensive range of control units is competitively priced and its modern design features high impact resistant ABS. Tamperproof rear fixing make installation quick and simple. A choice of incandescent lamp or super bright LED. All contact blocks are finger protected to IP20, and the units have an overall IP65 rating. Up to six contact blocks may be applied. The units are UL, CSA and TUV approved, CE marked, and meet EN418 requirements.

Technical specification	
Operating temperature	Operation -25°C to 50°C (without freezing) Storage -40°C to +70°C (without freezing)
Electric shock protection	Class 0 conforming to IEC536
Degree of protection IEC529	IP65 (from front of panel) IP20 (context block)
Mechanical life	Momentary pushbuttons 5,000,000 operations All other switches 500,000 operations
Rated insulation voltage	600V
Rated thermal current	10A
Minimum switching capacity	5mA at 3V AC/DC
Operating Force	with 1 NO or 1 NC 6.2 ± 2N (momentary) 7.0 ± 2N (alternate) additional NO or NC contact +3.2N (momentary) +3.3N (alternate)

**22.5mm non-illuminated push buttons**

Push button operators available with a choice of six coloured flush inserts (supplied in packs of 4). Buttons are available in momentary or alternate operation.



Description	IEDEC Part No	Order code
Momentary push button operator	HW1B-M0	78-3200
Alternate push button operator	HW1B-A0	78-3202
Black button insert	HW1A-B1-B	78-3204
Green button insert	HW1A-B1-G	78-3206
Red button insert	HW1A-B1-R	78-3208
Yellow button insert	HW1A-B1-Y	78-3210
Blue button insert	HW1A-B1-S	78-3212
White button insert	HW1A-B1-W	78-3214

Price each					
	Order code	1+	10+	25+	50+
Momentary button	78-3200	1.95	1.75	1.65	1.55
Alternate button	78-3202	5.50	4.95	4.65	4.40
Price per pack of 4					
	Order code	1+	10+	25+	50+
Pack of black button inserts	78-3204	1.00	0.88	0.80	0.72
Pack of green button inserts	78-3206	1.00	0.88	0.80	0.72
Pack of red button inserts	78-3208	1.00	0.88	0.80	0.72
Pack of yellow button inserts	78-3210	1.00	0.88	0.80	0.72
Pack of blue button inserts	78-3212	1.00	0.88	0.80	0.72
Pack of white button inserts	78-3214	1.00	0.88	0.80	0.72

**IEDEC**

**22.5mm selector operators**



Description	IEDEC Part No	Order code
2 position maintained	HW1S-2T	78-3216
2 position spring return right to left	HW1S-21T	78-3218
3 position maintained	HW1S-3T	78-3220
4 position maintained	HW1S-4T	78-3222
5 position maintained	HW1S-5T	78-3224

	Order code	1+	10+	25+	50+
2 position maintained	78-3216	3.75	3.35	3.15	3.00
2 position spring return right to left	78-3218	3.75	3.35	3.15	3.00
3 position maintained	78-3220	3.75	3.35	3.15	3.00
4 position maintained	78-3222	5.15	4.65	4.35	4.10
5 position maintained	78-3224	5.15	4.65	4.35	4.10

**Emergency stop heads**



Description	IEDEC Part No	Order code
29mm head	HW1B-V3R	78-3226
40mm head	HW1B-V4R	78-3228
"Emergency stop" legend plate	HWAV-27	78-3230

	Order code	1+	10+	25+	50+
29mm head	78-3226	10.25	9.20	8.70	8.20
40mm head	78-3228	10.25	9.20	8.70	8.20
"Emergency Stop" legend plate	78-3230	2.00	1.80	1.70	1.60

**22.5mm Key switch operators**



Description	IEDEC Part No	Order code
2 Position maintained	HW1K-2A	78-3236
2 position spring return right to left	HW1K-21B	78-3238
3 Position maintained	HW1K-3A	78-3240
3 position spring return right to centre	HW1K-31B	78-3242

	Order code	1+	10+	25+	50+
2 Position maintained	78-3236	8.90	8.00	7.55	7.10
2 position spring return right to left	78-3238	8.90	8.00	7.55	7.10
3 Position maintained	78-3240	8.90	8.00	7.55	7.10
3 position spring return right to centre	78-3242	8.90	8.00	7.55	7.10

## Contact assemblies



Description	IDEC Part No	Order code
1NC contact assembly	HW-FB01	78-3244
1NO contact assembly	HW-FB10	78-3246
1NO + 1NC contact assembly	HW-FB11	78-3248
2NO contact assembly	HW-FB20	78-3250
Normally open contact block only	HW-F10	78-3252
Normally closed contact block only	HW-F01	78-3254
Dummy block for non-illuminated units	TW-DB	78-3256

	Order code	1+	10+	25+	50+
1NC contact assembly	78-3244	2.90	2.60	2.45	2.30
1NO contact assembly	78-3246	2.90	2.60	2.45	2.30
1NO + 1NC contact assembly	78-3248	5.10	4.60	4.30	4.05
2NO contact assembly	78-3250	5.10	4.60	4.30	4.05
Normally open contact block only	78-3252	2.30	2.05	1.95	1.84
Normally closed contact block only	78-3254	2.30	2.05	1.95	1.84
Dummy block for non-illuminated units	78-3256	2.30	2.05	1.95	1.84

## EN418 Emergency stop station

IP65 Emergency stop pushbutton station with "Emergency stop" legend plate. 1 normally closed contact and push to lock, twist to release device. Meets the machinery directive EN-60947-5-1. One more contact block can be added if required.



Description	IDEC Part No	Order code
Stop station	HW1X-SB-BV401E-R	78-3258

	Order code	1+	5+	10+
Stop station	78-3258	22.50	20.25	19.10

## Illuminated push button operators

22.5mm round illuminated push button operators with a choice of six coloured flush lenses. Buttons available with momentary or alternate push buttons.



Description	IDEC Part No	Order code
Momentary push button operator	HW1L-M0	78-3260
Alternate push button operator	HW1L-A0	78-3262
Amber lens	HW1A-L1-A	78-3264
Green lens for LED	HW1A-L1-GD	78-3266
Green lens for incandescent	HW1A-L1-GL	78-3268
Red lens	HW1A-L1-R	78-3270
Yellow lens	HW1A-L1-Y	78-3272
Blue lens	HW1A-L1-S	78-3274
White lens	HW1A-L1-W	78-3276

		1+	10+	25+	50+
Momentary push button operator	78-3260	1.65	1.48	1.40	1.32
Alternate push button operator	78-3262	5.35	4.80	4.55	4.25
Amber lens	78-3264	1.60	1.44	1.36	1.28
Green lens for LED	78-3266	1.60	1.44	1.36	1.28
Green lens for incandescent	78-3268	1.60	1.44	1.36	1.28
Red lens	78-3270	1.60	1.44	1.36	1.28
Yellow lens	78-3272	1.60	1.44	1.36	1.28
Blue lens	78-3274	1.60	1.44	1.36	1.28
White lens	78-3276	1.60	1.44	1.36	1.28

## Contact assemblies



Illuminated contact assemblies for illuminated push button control units. A choice of direct connected units or transformer operated, with either 110VAC or 230VAC connections. Transformer assemblies for pilot lights include a 6.3V incandescent lamp. Please note that any lamp fitted to any control units should not exceed 1W. Additional contact blocks are available. A dummy block should be used when additional blocks result in an odd number of blocks, to prevent dust ingress and maintain positive switching. Adaptors for additional contact blocks on direct units, and a lead holder to bring illumination voltage through the contact blocks are available, giving a wide choice of switching arrangements.

Description	IDEC Part No	Order code
Direct unit with 1NC contact	HW-FL01Q0	78-3278
Direct unit with 1NO contact	HW-FL10Q0	78-3280
Direct unit with 1NO + 1NC contact	HW-FL11Q0	78-3282
Direct unit with 2NO contacts	HW-FL20Q0	78-3284
110VAC transformer with 1NC contact	HW-FL01H	78-3286
110VAC transformer with 1NO contact	HW-FL10H	78-3288
110VAC transformer with 1NO + 1NC contact	HW-FL11H	78-3290
110VAC transformer with 2NO	HW-FL20H	78-3292
230VAC transformer with 1NC contact	HW-FL01M3	78-3294
230VAC transformer with 1NO contact	HW-FL10M3	78-3296
230VAC transformer with 1NO + 1NC contact	HW-FL11M3	78-3298
230VAC transformer with 2NO contact	HW-FL20M3	78-3300
110VAC transformer pilot light	HW-FH0-6V	78-3302
230VAC transformer pilot light	HW-FM30-6V	78-3304
Normally open contact block only	HW-F10	78-3306
Normally closed contact block only	HW-F01	78-3308
Direct adapter for an odd number of blocks	TW-DA1FB	78-3310
Direct adapter for an even number of blocks	TW-DA1FB	78-3312
Lead holder to pass illumination voltage through the centre of additional contact blocks	HW-LH3	78-3314

	Order code	1+	10+	25+	50+
	78-3278	5.50	4.95	4.65	4.40
	78-3280	5.50	4.95	4.65	4.40
	78-3282	6.70	6.00	5.65	5.35
	78-3284	6.70	6.00	5.65	5.35
	78-3286	7.80	7.00	6.65	6.25
	78-3288	7.80	7.00	6.65	6.25
	78-3290	10.00	9.00	8.50	8.00
	78-3292	10.00	9.00	8.50	8.00
	78-3294	7.80	7.00	6.65	6.25
	78-3296	7.80	7.00	6.65	6.25
	78-3298	10.00	9.00	8.50	8.00
	78-3300	10.00	9.00	8.50	8.00
	78-3302	4.05	3.65	3.40	3.20
	78-3304	4.05	3.65	3.40	3.20
	78-3306	2.30	2.05	1.95	1.85
	78-3308	2.30	2.05	1.95	1.85
	78-3310	1.95	1.75	1.65	1.56
	78-3312	0.90	0.80	0.75	0.70
	78-3314	0.36	0.32	0.30	0.28

**Pilot light operators**

Pilot light operators are for either direct connection or transformer operation. Round flush pilot light lenses are in a choice of six colours.

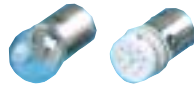


Direct connection operator	HW1P-1F00	78-3316
Transformer operator	HW1P-10	78-3318
Amber lens	HW1A-P1-A	78-3320
Green lens for LED	HW1A-P1-GD	78-3322
Green lens for incandescent	HW1A-P1-GL	78-3324
Red lens	HW1A-P1-R	78-3326
Yellow lens	HW1A-P1-Y	78-3328
Blue lens	HW1A-P1-S	78-3330
White lens	HW1A-P1-W	78-3332

	1+	10+	25+	50+	
Direct connection operator	78-3316	1.35	1.20	1.15	1.05
Transformer operator	78-3318	1.35	1.20	1.15	1.05
Amber lens	78-3320	1.80	1.62	1.53	1.44
Green lens for LED	78-3322	1.80	1.62	1.53	1.44
Green lens for incandescent	78-3324	1.80	1.62	1.53	1.44
Red lens	78-3326	1.80	1.62	1.53	1.44
Yellow lens	78-3328	1.80	1.62	1.53	1.44
Blue lens	78-3330	1.80	1.62	1.53	1.44
White lens	78-3332	1.80	1.62	1.53	1.44

**Incandescent lamps and LEDs**

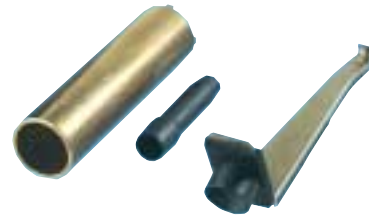
A range of incandescent lamps and LEDs to compliment the pushbutton and pilot light range. The incandescent lamps are JBA/S/13 1W rated. The LEDs can be used with a standard transformer and include current limiting resistors and bridge rectifiers allowing use on AC or DC, except 120V AC only. LEDs are not polarity sensitive on DC. Use 6.3V LEDs with transformers.



Description	IDEC Part No	Order code
24V/1W	LS-2	78-3334
30V/1W	LS-3	78-3336
6.3V/1W	LS-6	78-3338
12V AC/DC Amber	LSPD-1A	78-3340
12V AC/DC Green	LSPD-1G	78-3342
12V AC/DC Red	LSPD-1R	78-3344
12V AC/DC Yellow	LSPD-1Y	78-3346
12V AC/DC White	LSPD-1W	78-3348
24V AC/DC Amber	LSPD-2A	78-3350
24V AC/DC Green	LSPD-2G	78-3352
24V AC/DC Red	LSPD-2R	78-3354
24V AC/DC Yellow	LSPD-2Y	78-3356
24V AC/DC White	LSPD-2W	78-3358
6.3V AC/DC Amber	LSPD-6A	78-3360
6.3V AC/DC Green	LSPD-6G	78-3362
6.3V AC/DC Red	LSPD-6R	78-3364
6.3V AC/DC Yellow	LSPD-6Y	78-3366
6.3V AC/DC White	LSPD-6W	78-3368
120V AC/DC Amber	LSPD-120A	78-3370
120V AC/DC Green	LSPD-120G	78-3372
120V AC/DC Red	LSPD-120R	78-3374
120V AC/DC Yellow	LSPD-120Y	78-3376
120V AC/DC White	LSPD-120W	78-3378

Incandescent lamps	1+	10+	25+	50+	
24V/1W	78-3334	0.45	0.40	0.38	0.36
30V/1W	78-3336	0.45	0.40	0.38	0.36
6.3V/1W	78-3338	0.45	0.40	0.38	0.36
<b>LED</b>					
12V AC/DC Amber	78-3340	3.00	2.70	2.55	2.40
12V AC/DC Green	78-3342	3.00	2.70	2.55	2.40
12V AC/DC Red	78-3344	3.00	2.70	2.55	2.40
12V AC/DC Yellow	78-3346	3.00	2.70	2.55	2.40
12V AC/DC White	78-3348	3.00	2.70	2.55	2.40
24V AC/DC Amber	78-3350	3.00	2.70	2.55	2.40
24V AC/DC Green	78-3352	3.00	2.70	2.55	2.40
24V AC/DC Red	78-3354	3.00	2.70	2.55	2.40
24V AC/DC Yellow	78-3356	3.00	2.70	2.55	2.40
24V AC/DC White	78-3358	3.00	2.70	2.55	2.40
6.3V AC/DC Amber	78-3360	3.00	2.70	2.55	2.40
6.3V AC/DC Green	78-3362	3.00	2.70	2.55	2.40
6.3V AC/DC Red	78-3364	3.00	2.70	2.55	2.40
6.3V AC/DC Yellow	78-3366	3.00	2.70	2.55	2.40
6.3V AC/DC White	78-3368	3.00	2.70	2.55	2.40
120V AC/DC Amber	78-3370	5.70	5.15	4.85	4.55
120V AC/DC Green	78-3372	5.70	5.15	4.85	4.55
120V AC/DC Red	78-3374	5.70	5.15	4.85	4.55
120V AC/DC Yellow	78-3376	5.70	5.15	4.85	4.55
120V AC/DC White	78-3378	5.70	5.15	4.85	4.55

**Tools**



	Order code	1+
Operator locking ring wrench	78-3380	9.95
Insertion and removal tool for LED/lamp	78-3382	0.60
Contact block removal tool	78-3384	2.15

**Emergency stop button enclosures**

Spelsberg

A range of high quality enclosures with cut-outs in their front faces for mounting industry standard 22.5mm diameter controls such as emergency stop buttons, key-switches and indicators. These very rugged enclosures are manufactured from glass-fibre reinforced polycarbonate and offer high weather, UV and impact resistance, ideal for use in harsh environments. Ingress protection, as supplied, is to IP65 standard. The base of the boxes have Pg 11/16 cable entries, 3 on the standard boxes, 2 on the mini box (30-1806). Lids are fixed by four captive black plastic bolts. Supplied complete with fixing screw covers and flexible IP54 cable entry grommets, which can be cut to suit the cable diameter. Spelsberg BM series.



Technical specification	Dimensions	Colour	Spelsberg Pt. No.	Order code
Type	W x L x H (mm)			
Single	94 x 94 x 81	Yellow lid	BM1-L yellow	30-1800
Dual	94 x 130 x 81	Grey	BM2-L	30-1802
Triple	94 x 180 x 81	Grey	BM3-L	30-1804
Single - mini	65 x 65 x 57	Yellow lid	BM1-MK3 yellow	30-1806

	Order code	1+	10+	25+	50+
Single - yellow front	30-1800	6.75	6.50	6.30	6.10
Dual - grey	30-1802	7.80	7.55	7.30	7.10
Triple - grey	30-1804	9.25	8.85	8.65	8.45
Single - mini - yellow front	30-1806	4.10	3.95	3.85	3.75



**Low cost storage units**

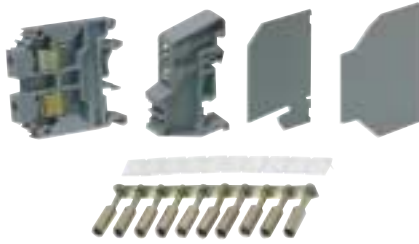
Store-Age™ range of modular portable drawer cabinets.

See page 657

## DIN rail terminals and accessories

**New New**

Connectwell



A range of thermoplastic polyamide 6.6 terminals that are unbreakable and can withstand temperatures up to 100°C. The terminals can be mounted on 35x7mm Omega type DIN – 3 rail and standard 32mm G type DIN rail – 1 rail. The terminals incorporate an arrangement at the outside of the flexible foot to enable easy dismounting by help of a screwdriver.

Approvals: **UL** recognised (20A, 300V – 2.5mm, 25A, 600V – 4mm, 50A, 600V – 6mm, 65A 600V – 10mm, 115A, 600V – 25mm)  
**CSA** (20A, 600V – 2.5mm, 25A, 600V – 4mm, 50A, 600V – 6mm, 65A, 600V – 10mm, 115A, 600V – 25mm)  
**VDE** (24A, 750V – 2.5mm, 32A, 750V – 4mm, 41A, 750V – 6mm, 57A, 750V – 10mm, 101A, 750V – 25mm).

	Order code	1+	25+	100+	500+
<b>2.5mm</b>					
Terminal	28-0750	0.35	0.31	0.28	0.25
End plate	28-0752	0.15	0.125	0.11	0.10
Partition plate	28-0754	0.20	0.16	0.13	0.125
End clamp	28-0756	0.34	0.31	0.27	0.24
10 way shorting jumper	28-0758	1.20	1.00	0.85	0.80
Terminal marker (100)	28-0760	2.00	1.72	1.55	1.40
<b>4mm</b>					
Terminal	28-0762	0.40	0.33	0.29	0.26
End plate	28-0752	0.15	0.125	0.11	0.10
Partition plate	28-0754	0.20	0.16	0.13	0.125
End clamp	28-0756	0.34	0.31	0.27	0.24
10 way shorting jumper	28-0764	1.50	1.40	1.25	1.18
Terminal cover (100)	28-0766	2.00	1.72	1.55	1.40
<b>6mm</b>					
Terminal	28-0768	0.45	0.38	0.32	0.29
End plate	28-0770	0.15	0.125	0.11	0.10
Partition plate	28-0772	0.20	0.16	0.13	0.125
End clamp	28-0756	0.34	0.31	0.27	0.24
10 way shorting jumper	28-0776	1.20	1.00	0.85	0.80
Terminal marker (100)	28-0778	2.00	1.72	1.55	1.40
<b>10mm</b>					
Terminal	28-0780	0.60	0.52	0.40	0.36
End plate	28-0770	0.15	0.125	0.11	0.10
Partition plate	28-0772	0.20	0.16	0.13	0.125
End clamp	28-0756	0.34	0.31	0.27	0.24
10 way earth terminal	28-0782	2.30	1.95	1.75	1.65
Shorting terminal	28-0784	1.20	1.05	0.98	0.92
Terminal marker (100)	28-0786	2.80	2.35	2.00	1.80
<b>25mm</b>					
Terminal	28-0788	0.85	0.75	0.68	0.63
End plate	28-0790	0.30	0.25	0.18	0.165
Partition plate	28-0792	0.33	0.26	0.22	0.185
End clamp	28-0756	0.34	0.31	0.27	0.24
10 way shorting jumper	28-0794	1.85	1.55	1.38	1.27
Terminal marker (100)	28-0796	2.80	2.35	2.00	1.80

## Universal DIN rail terminals

Entelec

A range of universal 5000 series DIN rail mounted terminals and accessories from Entelec. For use with the standard DIN 46277/1 asymmetric, DIN EN50022 rails.

Approvals:	E - DEMKO	I - SETI	M - E Exil/II
A - CSA	F - NEMKO	J - KEMA	N - Exel/II
B - UL	G - NORSE VER.	K - GL	
C - SEV	H - CEGB	L - GOST	

### Feed through terminals

Standard feed through blocks available in a wide range of cable size capacities and colours. Dimensions 53.0(h) x 44.5(w).

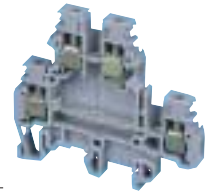


Cable stranded	size (mm <sup>2</sup> )	nominal current	pitch	colour	approvals	Manfr.type	Order code
2.5	4.0	26A	5	grey	A,B	115-486-03	28-0300
2.5	4.0	26A	5	blue	A,B	125-486-05	28-0302
4.0	4.0	35A	6	grey	A,N	115-116-07	28-0304
4.0	4.0	35A	6	yellow	M, N	105-116-16	28-0306
4.0	4.0	35A	6	blue	A,N	125-116-01	28-0308
4.0	4.0	35A	6	red	A,B	105-032-15	28-0310
4.0	4.0	35A	6	black	A,B	105-031-14	28-0312
6.0	10.0	46A	8	grey	A,N	115-118-11	28-0314
10.0	16.0	63A	10	grey	A-G, J, K, L, N	115-120-17	28-0316
16.0	25.0	85A	12	grey	A-B, C, D, F, G, I-N	115-129-14	28-0318

Cable size	colour	Order code	1+	100+	500+
2.5	grey	28-0300	0.45	0.39	0.35
2.5	blue	28-0302	0.50	0.47	0.44
4	grey	28-0304	0.45	0.39	0.35
4	yellow	28-0306	0.50	0.47	0.44
4	blue	28-0308	0.50	0.47	0.44
4	red	28-0310	0.50	0.47	0.44
4	black	28-0312	0.50	0.47	0.44
6	grey	28-0314	0.58	0.54	0.50
10	grey	28-0316	0.71	0.66	0.62
16	grey	28-0318	1.02	0.95	0.88

### Double deck terminals

Piggyback terminals offering two through terminations in the same width spacing as a normal single feed-through. Voltage rating 750V AC.



Cable size mm <sup>2</sup> manfrs.		nominal current	pitch	colour	approvals	type
stranded 4.0	solid 4.0	35A	6	grey	B, I, K, L	115-271-22
		Order code	1+	100+	500+	
		28-0330	1.05	0.95	0.89	

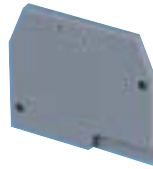
### Earth Terminal

Earth terminals with the same dimensional characteristics as standard terminals.



Cable size mm <sup>2</sup> manfrs.		pitch	approvals	manfrs. type
stranded 4.0	solid 4.0	6	B, F, I, J, L	165-113-16
6.0	10.0	8	A-F, I, J, L, M, N	165-114-17
Cable size	Order code	1+	100+	500+
4.0	28-0340	1.68	1.52	1.39
6.0	28-0342	1.92	1.68	1.45

**End covers**



Terminal type	Manfr. type	Order code
2.5-10mm <sup>2</sup> standard, earth		
4/6mm <sup>2</sup> , isolating 4mm <sup>2</sup>	118-368-16	28-0350
16mm <sup>2</sup> standard	118-618-01	28-0352
2.5mm <sup>2</sup> , 4mm <sup>2</sup> double deck	118-449-23	28-0354
10mm <sup>2</sup> fused	117-628-22	28-0356
	Order code	1+ 50+
	28-0350	0.21 0.19
	28-0352	0.38 0.34
	28-0354	0.42 0.38
	28-0356	0.33 0.29

**Accessories**

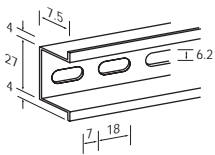
A range of accessories to suit above terminals.



Type	Manfr. type	Order code
6mm pitch 10 way Jumper kit (for double-deck)	173-500-22	28-0370
End stop terminal	103-002-26	28-0372
Card of 100 blank markers (5mm pitch)	231-000-07	28-0374
	Order code	1+ 50+
	28-0370	2.35 2.05
	28-0372	0.45 0.40
	28-0374	1.45 1.30

**Symmetric DIN rail**

**New New**

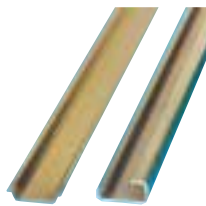
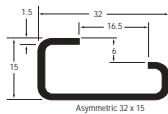
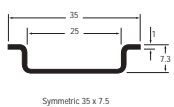


Symmetric (35x7.5mm) perforated DIN rail supplied in 2m lengths. Bichromated galvanised steel offering high mechanical and corrosion resistance. Conforms to **EN 50035**, **50022** and **DIN 46277**. Supplied in packs of **15 x 2 metre lengths**.

	Order code	1+	5+	10+
Price per pack	28-0704	19.50	18.90	18.50

**DIN rails**

**Bowthorpe**



Symmetric (35 x 7.5mm) and Asymmetric (32 x 15mm) DIN rails. The symmetric 35 x 7.5mm has 18 x M6 slots punched at 25mm intervals. Short circuit capacity 47A. Conforms to **EN50054 (DIN 46277-2)**. **BS6273** manufactured in steel, zinc plate passivated. The asymmetric 32 x 15mm G-rail is unslotted and conforms to **EN50035 (DIN46277-1)** **BS5825**. Short circuit capacity 143A.

Supplied in packs of **10 x 1 metre lengths**.

	Price per pack			
Pack of 10 x 1m lengths	Order code	1+	5+	10+
Symmetric 35 x 7.5mm	28-0700	21.50	18.50	16.50
Asymmetric 32 x 15mm	28-0702	16.50	15.90	15.40

**Enclosed mains isolators**

**Moeller**

A range of 3 pole cam operated mains isolator switches which conform to BS, IEC and VDE for use as mains isolators with single speed, single direction 3-phase motors. The isolators have a red operating handle and contrasting yellow collar and are lockable in the off position using up to three padlocks. Key features include:

- simple, quick and easy to install
- hard knockout cable entries
- hard plastic plugs prevent accidental entry
- dust, moisture and chemical resistant
- total insulation ensures optimum operator protection

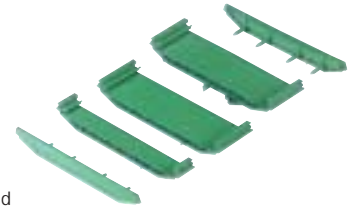


Technical specification	20A	25A	32A	63A	100A
Rated thermal current	20A	25A	32A	63A	100A
Max 3-phase motor rating (600V)	4kW	7.5kW	13kW	30kW	37kW
Dimensions (wtxhxd)	80x100x106	100x160x135	100x160x135	120x200x160	200x280x160
Type of entry (knockouts)	4x20mm	4x20/25mm	4x25/20mm	4x32/25mm	4x50/40/25mm
Temperature range	-25 to +50°C				
Order code	28-0550	28-0552	28-0554	28-0556	28-0558
		Order code	1+ 5+ 10+ 20+		
20A 4kW	28-0550	14.90	13.90	13.20	12.40
25A 7.5kW	28-0552	18.55	17.30	16.50	15.45
32A 13kW	28-0554	23.35	21.80	20.75	19.45
63A 30kW	28-0556	44.75	41.75	39.80	37.25
100A 37kW	28-0558	76.90	71.80	68.40	64.10

**DIN rail mounting interface modules**

**Camden**

Euro series DIN rail mounting modules are designed to accept 108mm wide 1.5mm thick PCB's. Each module consists of two side elements plus base elements necessary to complete the length. The unit contains sufficient base elements with feet to support the module. Sufficient brass pins to hold the elements together are included (4 per interlocking element). Manufactured in green self extinguishing Nylon **UL94V-0**.

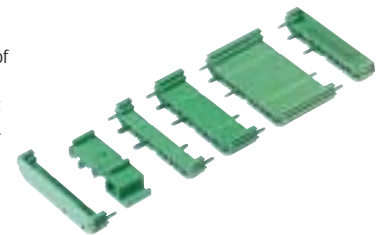


Type	width (mm)	Order code	1+	25+	100+	250+
Side section low profile	-	21-1440	0.43	0.36	0.31	0.27
Base section 35	35mm	21-1442	1.26	1.06	0.91	0.81
Base section 16.5	16.5mm	21-1444	0.74	0.62	0.53	0.47
Base section with foot	35mm	21-1446	1.35	1.14	0.97	0.87
Metal pins	-	21-1448	0.10	0.08	0.07	0.065

**DIN rail mounted interface modules**

**Camden**

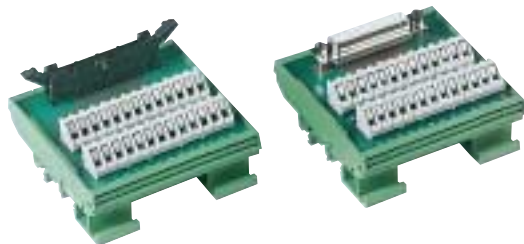
These low profile DIN rail mounting modules are assembled from a small range of standard elements. Mini series modules are designed to accept 72mm wide 1.5mm thick PCB's. Each module consists of two side elements plus the necessary base elements to complete the length. Foot elements to clip into any DIN rail are fitted to the base modules as required. Manufactured in green self extinguishing Nylon **UL94V-0**.



Type	width (mm)	Order code	1+	25+	100+	250+
Side element	11.25	21-1450	0.39	0.33	0.28	0.25
Narrow base	11.25	21-1452	0.39	0.33	0.28	0.25
Medium base	22.25	21-1454	0.56	0.47	0.41	0.36
Wide base	45.0	21-1456	0.91	0.77	0.66	0.59
Foot section	-	21-1458	0.60	0.46	0.40	0.38
End section	11.25	21-1460	0.56	0.47	0.41	0.36
End section with foot	11.25	21-1462	0.56	0.47	0.41	0.36
End section with foot	22.25	21-1464	0.73	0.61	0.52	0.465

## DIN rail mounting interface modules

Camden



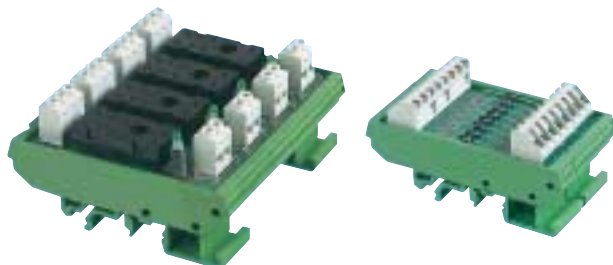
These modules offer a cost effective and easy to install solution for wiring electronics to electrical connections. The units consist of a DIN rail mounting module containing a fibre glass PCB linking numbered screw terminals to either IDC pin headers or D connector plugs and sockets. Pin connections are clearly marked on the printed circuit board. Modules manufactured in green self extinguishing Nylon **(UL94V-0 rated)**.

Technical specification	
Voltage	50V DC max.
Current	1A max.
Connections	Rising clamp 45° screw terminals
Cable capacity	4.0mm <sup>2</sup> solid wire acceptance

Type	Order code	1+	10+	25+	50+
<b>IDC header to screw terminals</b>					
20 way IDC header	21-1402	14.35	13.20	12.82	12.45
26 way IDC header	21-1404	18.80	17.30	16.80	16.30
34 way IDC header	21-1406	22.55	20.75	20.18	19.60
40 way IDC header	21-1408	25.50	23.50	22.85	22.15
50 way IDC header	21-1410	32.20	29.65	28.80	27.95
<b>D connector to screw terminals</b>					
9 way D male	21-1420	10.70	9.85	9.57	9.30
15 way D male	21-1422	14.70	13.55	13.15	12.75
25 way D male	21-1424	20.90	19.25	18.70	18.15
9 way D female	21-1430	10.40	9.60	9.31	9.05
25 way D female	21-1434	22.50	20.70	20.10	19.50
37 way D female	21-1436	26.95	24.70	22.45	21.70

## DIN rail relay/diode interface modules

Camden



These modules offer a cost effective and easy to install solution for wiring electronics to electrical connections. The units consist of a DIN rail mounting support containing either diodes or relay sockets to accept DPDT relays with standard 5mm spacing e.g. Kuhnke 107G2 series – see page 451. Pin connections are clearly marked on the printed circuit board. Modules are manufactured in green self extinguishing Nylon **(UL94V-0 rated)**.

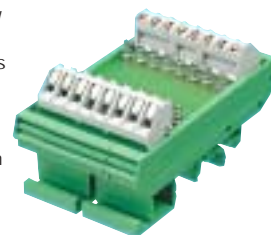
Technical specification	
Rated voltage:	Diode 250V AC
Connectors:	Diode Clamp 45° screw terminals
	Relay Rising clamp vertical screw terminals
Cable capacity	4mm <sup>2</sup> solid wire acceptance
Manufr. Part Nos	8-way diode CIM/8W-D10
	4 relay module CIM/R4-WB-S-24
	8 relay module CIM/R8-WB-S-24
	16 relay module CIM/R16-WB-S-24

Type	Order code	1+	10+	25+	50+
8-way diode module	21-1470	11.65	10.15	9.00	8.45
4-way relay module	21-1472	34.90	30.50	27.00	25.25
8-way relay module	21-1474	66.30	58.00	51.40	48.10
16-way relay module	21-1476	130.00	114.50	101.00	94.80

## DIN rail mounting component interface modules

Camden

This module offers a cost effective and easy to install solution for wiring electronics to electrical connections. The module consists of a DIN rail mounting support which contains tags for up to eight components which are in turn connected to a terminal block. Pin connections are clearly marked on the PCB. Manufactured in green self extinguishing Nylon **(UL94V-0 rated)**.



Technical specification	
Voltage	250V ac max.
Current	1A per contact max.
Connections	Rising clamp 45°C screw terminals
Cable capacity	4mm <sup>2</sup> solid wire acceptance
Manufr. part No.	CIM/8W-Comp

Type	Order code	1+	10+	50+	100+
8 way module	21-1484	20.80	17.50	15.40	14.60

## DIN rail mounting fuseholders

Camden

These modules offer a cost effective and easy to install solution for wiring electronics to electrical connections. The units consist of a DIN rail mounting support containing either two or four fuseholders. Pin connections are clearly marked on the PCB. Modules are manufactured in green self extinguishing Nylon **(UL94V-0 rated)**.



Technical specification	
Voltage	250V ac
Current rating	3A max. per fuse
Connections	Rising clamp vertical screw terminals
Cable capacity	4mm <sup>2</sup> solid wire acceptance
Manufrs Part Nos	2 fuse CIM/2W-FU-5
	4 fuse CIM/4W-FU-5

Type	Order code	1+	10+	50+	100+
2 fuse	21-1480	9.10	7.62	6.72	6.35
4 fuse	21-1482	14.95	12.58	11.08	10.48