



## Modular Contactors |

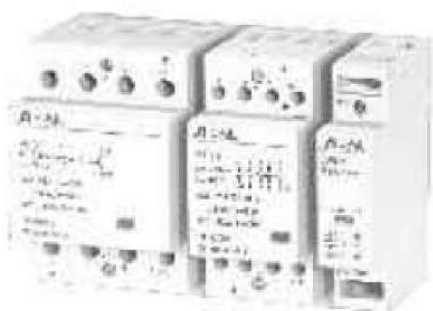
**DYNAGEAR**

Lakshmi Electrical Control Systems Limited

# Modular Contactors

## Technical Data / Function & Features

These contactors are frequently applied to switching of lamp loads, fans or pumps in both utility as well as industrial areas. Optimal contacts and control voltage with low heat dissipation to guarantee a long endurance of the contactor which is available in wide range of characteristics.



### Technical Data

Standards : IEC/EN 61095, IEC/EN-60947-4-1

Suitable for applications in general control, heating & lighting applications

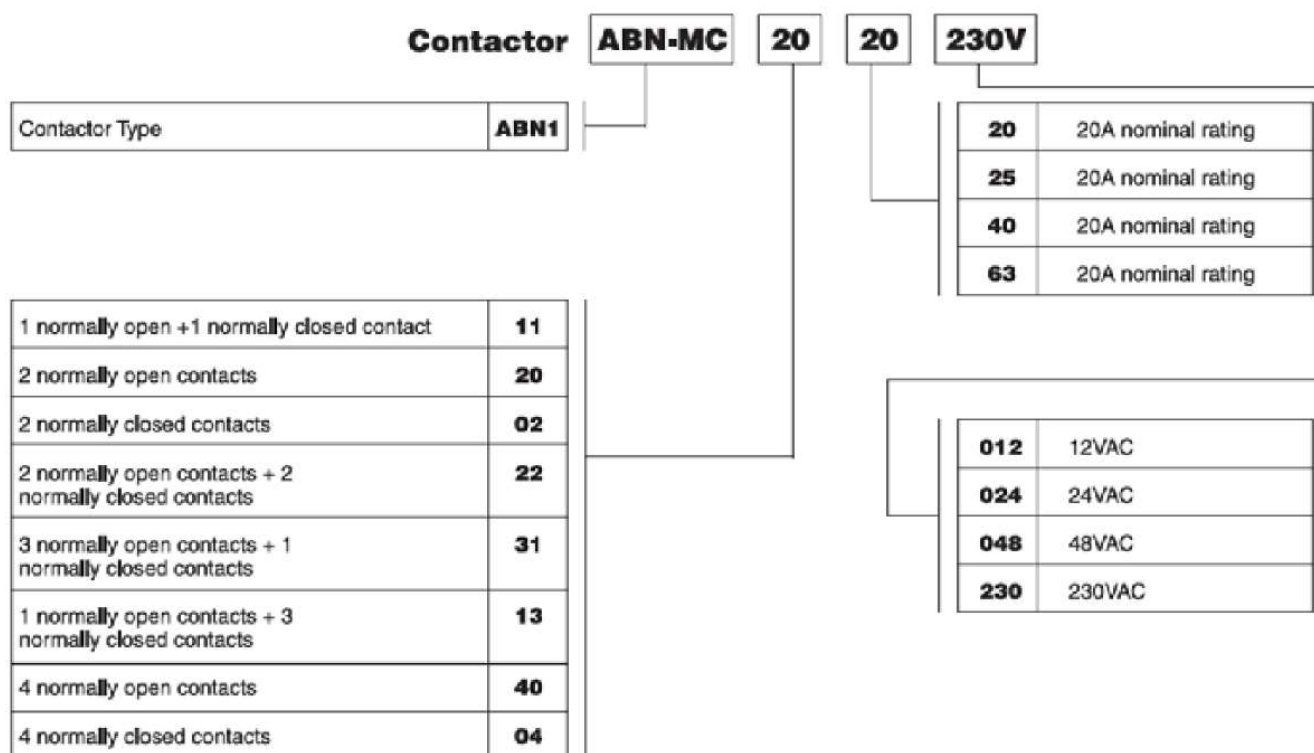
Available in 20, 25, 40, 63A ratings with up to 4 poles contacts.

Coil Voltages : 24VAC, 48VAC, 230VAC, 110VAC

Day/Night contactors available with manual override function.

DIN modular profile

### Explanation of ABN list number system





Type	Rating	Control Voltage	Contacts	Width	QPC	Qty/CTN
ABN-MC-20-20-230V	20A	230VAC	2NO	18mm	1	120
ABN-MC-20-20-48V	20A	48VAC	2NO	18mm	1	120
ABN-MC-20-20-24V	20A	24VAC	2NO	18mm	1	120
ABN-MC-25-20-230V	25A	230VAC	2NO	18mm	1	120
ABN-MC-25-20-48V	25A	48VAC	2NO	18mm	1	120
ABN-MC-25-20-24V	25A	24VAC	2NO	18mm	1	120

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-20-02-230V	20A	230VAC	2NC	18mm	1	120
ABN-MC-20-02-48V	20A	48VAC	2NC	18mm	1	120
ABN-MC-20-02-24V	20A	24VAC	2NC	18mm	1	120
ABN-MC-25-02-230V	25A	230VAC	2NC	18mm	1	120
ABN-MC-25-02-48V	25A	48VAC	2NC	18mm	1	120
ABN-MC-25-02-24V	25A	24VAC	2NC	18mm	1	120

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-20-11-230V	20A	230VAC	1NO+1NC	18mm	1	120
ABN-MC-20-11-48V	20A	48VAC	1NO+1NC	18mm	1	120
ABN-MC-20-11-24V	20A	24VAC	1NO+1NC	18mm	1	120
ABN-MC-25-11-230V	25A	230VAC	1NO+1NC	18mm	1	120
ABN-MC-25-11-48V	25A	48VAC	1NO+1NC	18mm	1	120
ABN-MC-25-11-24V	25A	24VAC	1NO+1NC	18mm	1	120

# Modular Contactors



Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-25-40-230V	25A	230VAC	4NO	36mm	1	60
ABN-MC-25-40-48V	25A	48VAC	4NO	36mm	1	60
ABN-MC-25-40-24V	25A	24VAC	4NO	36mm	1	60

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-25-04-230V	25A	230VAC	4NC	36mm	1	60
ABN-MC-25-04-48V	25A	48VAC	4NC	36mm	1	60
ABN-MC-25-04-24V	25A	24VAC	4NC	36mm	1	60

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-25-22-230V	25A	230VAC	3NO+1NC	36mm	1	60
ABN-MC-25-22-48V	25A	48VAC	3NO+1NC	36mm	1	60
ABN-MC-25-22-24V	25A	24VAC	3NO+1NC	36mm	1	60

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-25-31-230V	25A	230VAC	2NO+2NC	36mm	1	60
ABN-MC-25-31-48V	25A	48VAC	2NO+2NC	36mm	1	60
ABN-MC-25-31-24V	25A	24VAC	2NO+2NC	36mm	1	60



Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-40-40-230V	40A	230VAC	4NO	54mm	1	40
ABN-MC-40-40-48V	40A	48VAC	4NO	54mm	1	40
ABN-MC-40-40-24V	40A	24VAC	4NO	54mm	1	40
ABN-MC-63-40-230V	63A	230VAC	4NO	54mm	1	40
ABN-MC-63-40-48V	63A	48VAC	4NO	54mm	1	40
ABN-MC-63-40-24V	63A	24VAC	4NO	54mm	1	40

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-40-02-230V	40A	230VAC	4NC	54mm	1	40
ABN-MC-40-02-48V	40A	48VAC	4NC	54mm	1	40
ABN-MC-40-02-24V	40A	24VAC	4NC	54mm	1	40
ABN-MC-63-02-230V	63A	230VAC	4NC	54mm	1	40
ABN-MC-63-02-48V	63A	48VAC	4NC	54mm	1	40
ABN-MC-63-02-24V	63A	24VAC	4NC	54mm	1	40

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-40-31-230V	40A	230VAC	3NO+1NC	54mm	1	120
ABN-MC-40-31-48V	40A	48VAC	3NO+1NC	54mm	1	120
ABN-MC-40-31-24V	40A	24VAC	3NO+1NC	54mm	1	120
ABN-MC-63-31-230V	63A	230VAC	3NO+1NC	54mm	1	120
ABN-MC-63-31-48V	63A	48VAC	3NO+1NC	54mm	1	120
ABN-MC-63-31-24V	63A	24VAC	3NO+1NC	54mm	1	120

Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MC-40-22-230V	40A	230VAC	2NO+2NC	54mm	1	120
ABN-MC-40-22-48V	40A	48VAC	2NO+2NC	54mm	1	120
ABN-MC-40-22-24V	40A	24VAC	2NO+2NC	54mm	1	120
ABN-MC-63-22-230V	63A	230VAC	2NO+2NC	54mm	1	120
ABN-MC-63-22-48V	63A	48VAC	2NO+2NC	54mm	1	120
ABN-MC-63-22-24V	63A	24VAC	2NO+2NC	54mm	1	120

# Modular Contactors

## Function and Features

Have a manual override function, which enables the user to bring the contactor in either a forced "ON" or "OFF" position depends, on the tariff.



Type	Rating	Control Voltage	Contacts	Width	QPC	Qty /CTN
ABN-MCR-20-20-230V	20A	230VAC	2NO	18mm	1	120
ABN-MCR-25-20-230V	25A	230VAC	2NO	18mm	1	120

ABN-MCR-20-02-230V	20A	230VAC	2NO	18mm	1	120
ABN-MCR-25-02-230V	25A	230VAC	2NO	18mm	1	120

ABN-MCR-20-11-230V	20A	230VAC	1NO+1NC	18mm	1	120
ABN-MCR-25-11-230V	25A	230VAC	1NO+1NC	18mm	1	120



## Technical Details

Product	Contactors			
Rating (module)	ABN-MC-20	ABN-MC-25	ABN-MC-40	ABN-MC-63

### General

Standards		IEC60947-4-1, IEC61095			
Nominal operating voltage 1 Phase	Ue 1-ph	230V	230V	230V	230V
Nominal operating voltage 3 Phase	Ue 3-ph		400V	400V	400V
Mechanical endurance (switching cycles)		3,000,000	3,000,000	3,000,000	3,000,000
Protection Class		IP20	IP20	IP20	IP20
Permissible ambient temperatures		-5°C ~ +55°C	-5°C ~ +55°C	-5°C ~ +55°C	-5°C ~ +55°C

### Contact rating

Rated insulation voltage	Ui	500V	500V	500V	500V
Frequency		50/60Hz	50/60Hz	50/60Hz	50/60Hz
Rated impulse withstand voltage	Uimp	4kV	4kV	4kV	4kV
Rated thermal current	Ith	20A(25A)	25A	40A	63A
AC1/AC7a Rated operational current	Ie	20A(25A)	25A	40A	63A
AC1/AC7a Rated operational current AT Ue=230VAC Pmax		4kW	16kW	28kW	40kW
AC1/AC7a Rated operational current AT Ue=400VAC Pmax					
AC1/AC7b Rated operational current AT Ue=230VAC Pmax			4kW	12kW	15kW
AC1/AC7b Rated operational current AT Ue=400VAC Pmax					

### Electrical endurance

Maximum operating cycles at AC1/AC7a application		150000	150000	150000	150000
Maximum operating cycles at AC3/AC7a application		150000	150000	150000	150000
Maximum back-up fuse		25AgL	35AgL	63AgL	80AgL
Operating coil					
Coil inrush power (for all voltage ratings)					
Coil consumption (for all voltage ratings) 15-25ms		10-20ms			
Opening delay		20ms	20ms		
Terminals for main & auxiliary contacts					
Terminal capacity-fine standard wire		1-6mm <sup>2</sup>	1-6mm <sup>2</sup>	1-6mm <sup>2</sup>	1-6mm <sup>2</sup>
Terminal capacity-solid wire		1-10mm <sup>2</sup>	1-10mm <sup>2</sup>	1-25mm <sup>2</sup>	1-25mm <sup>2</sup>
Terminal screw size		M 3.5	M 3.5	M5	M5
Maximum torque		1.2Nm	1.2Nm	2.0Nm	2.0Nm
Terminal for operating coils					
Terminal capacity-fine standard wire		1-2.5mm <sup>2</sup>	1-2.5mm <sup>2</sup>	1-2.5mm <sup>2</sup>	1-2.5mm <sup>2</sup>
Terminal capacity-solid wire		1-2.5mm <sup>2</sup>	1-2.5mm <sup>2</sup>	1-2.5mm <sup>2</sup>	1-2.5mm <sup>2</sup>
Terminal screw size		M3	M3	M3	M3
Maximum torque		0.6Nm	0.6Nm	0.6Nm	0.6Nm

# Modular Contactors

## Lamp Load Table

Lighting	Lamp load (Watt)	Maximum number of fittings per contactor type			
Type		ABN-MC-20	ABN-MC-25	ABN-MC-40	ABN-MC-63
Incandescent lamp					
	15	86	110	228	480
	25	52	72	180	290
	40	32	50	122	195
	60	21	33	86	130
	75	17	26	69	104
	100	13	20	52	78
	150	8	13	34	52
	200	6	10	26	39
	250	5	8	20	31
	300	4	6	17	26
	500	2	4	10	15
	1000	1	2	5	7
Energy saving lamp					
	3	42	52	83	120
	5	42	52	83	120
	7	42	52	83	120
	9	36	45	72	104
	11	33	41	65	94
	15	30	37	59	85
	20	29	36	57	82
	23	28	35	56	81
Fluorescent lamp conventional supply					
Single fitting - Uncompensated (inductive)	18	22	24	90	140
	24	22	24	90	140
	36	17	20	65	95
	58	14	17	45	70
Single fitting - Uncompensated (capacitive)	18	7	8	48	73
	24	7	8	48	73
	36	7	8	48	73
	58	4	5	31	47
Double fitting - Series compensated	2x18	30	40	100	150
	2x24	24	31	78	118
	2x36	17	24	65	95
	2x58	10	14	40	60
Fluorescent lamp HF electronic					
Single fitting - HF electronic	18	25	31	49	71
	24	18	22	35	50
	36	14	17	27	39
	58	8	10	16	23
Double fitting - HF electronic	2x18	12	15	24	35
	2x24	9	11	17	25
	2x36	7	8	13	11
	2x58	4	5	8	11
Compact Fluorescent lamp					
Conventional supply	5	38	48	77	121
	7	27	34	54	86
	9	21	26	42	67
	11	17	21	35	55
Electronic supply	5	39	49	78	124
	7	39	49	78	124
	9	30	38	60	96
	11	25	31	50	79



## Lamp Load Table

Lighting	Lamp load (Watt)	Maximum number of fittings per contactor type			
Type		ABN-MC-20	ABN-MC-25	ABN-MC-40	ABN-MC-63
High pressure mercury vapour lamp					
Uncompensated	50	14	18	38	55
	80	10	13	29	42
	125	7	9	20	29
	250	4	5	10	15
	400	2	3	7	10
Parallel compensated	50	4	5	31	47
	80	4	5	27	41
	125	3	4	22	33
	250	1	2	12	18
	400	1	1	9	18
Halogen metal vapour lamp					
Uncompensated	35	18	22	43	60
	70	10	12	23	32
	150	5	7	12	18
	250	3	4	7	10
	400	3	3	6	9
Parallel compensated	35	5	6	36	50
	70	2	3	18	25
	150	1	1	11	15
	250	-	1	6	9
	400	-	1	6	8
Low pressure sodium vapour lamp					
Uncompensated	18	22	27	71	90
	35	7	9	23	30
	55	7	9	23	30
	90	4	5	14	19
	135	3	4	10	13
	180	3	4	10	13
Parallel compensated	18	6	7	44	66
	35	1	1	11	16
	55	1	1	11	16
	90	1	1	8	19
	135	-	-	4	7
	180	-	-	4	7
High pressure sodium vapour lamp					
Uncompensated	150	5	6	17	22
	250	3	4	10	13
	400	2	2	6	8
	1000	-	1	3	3
Parallel compensated	150	1	1	11	16
	250	-	1	6	10
	400	-	-	4	6
	1000	-	-	2	3

### General remarks :

1. In case a 4 pole contactor is used (3ph+neutral) the above mentioned quantity of lamps need to be multiplied by 1.5 to obtain the maximum quantity of fitting for the contactor
2. In case multiple contactors are installed in one panel it is required to multiply the above mentioned fittings by the applicable load factor according the IEC 60439-1
3. It is recommended to install one spacer between each 2 contactors installed (e.g contactor, contactor, spacer, contactor etc.)

## NOTE

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## NOTE

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DYNAGEAR

Lakshmi Electrical Control Systems Limited (LECS) is one of the leading manufacturer of switchgear products from 1982.

LECS manufactures custom-engineered control panel for Textile Machinery, Machine Tools, APFC, Energy Saver – Lighting, Compressor and many other applications conforming to International Standards.

LECS manufactures Engg. Plastic components with total expertise and facilities to deliver complete design solutions and ready to fit products. The company has strong background in R & D, Engineering, Tooling and Automation.

DYNAGEAR

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