FUSION SERIES

Circuit Protection
Modular Contactors

Data Specification 2023

AUSTRALIA WIDE DELIVERY
Expedited delivery to all states in Australia

SAME DAY DISPATCH
Orders prior to 12PM will be dispatched the same day

5 YEAR WARRANTY
You can get a trusted 5 Year In House Warranty with CSG

[DESCRIPTION]

The Connected Switchgear range of din rail modular contactors are designed for use in a wide variety of applications where reliable switching of all kinds of loads are required in light duty applications as per the AC-7A and AC-7B utilization category. Manufactured from high grade materials to ensure reliable performance. Relay contacts are designed to efficiently dissipate heat for long endurance. Available in single phase 16A to three phase 100A in a variety of contact configurations.

[FEATURES]

- 18mm Width Modules
- Long Mechanical Lifetime
- Low Power Consumption
- Compact, Silent Operation

[TECHNICAL PARAMETERS]

- Rated Voltage: 24V/240V/440V AC
- Rated Frequency: 50/60Hz
- Rated Impulse Withstand Voltage (UIMP): 4kV
- Cable Termination: 16/25mm^2
- Torque of Screw: 1.2/2Nm
- Complies with:
  IEC 60947-4-1
  IEC 61095

[APPROVALS]

ESV Compliant

[IMAGES]

MC116CO

MC263O

MC340C

MC6100O

FUSION

[IMPORTANT INFORMATION]

There are a number of factors that need to be considered when selecting the correct contactor for a switching application. The power requirement of the connected load, application, duty cycle requirement and temperature of operating environment. These considerations need to be understood to ensure the life of the product meets the installers expectations. Exceeding the devices rating will reduce the functioning life of the device. Conversely ensuring the load demands fall below the rating of th device will increase the functioning life of the device.

[WARRANTY]

Connected Switchgear FUSION series of modular contactors come with a trusted 5 Year Replacement Warranty. That means that you have peace of mind knowing that if a fault develops within a five year period, Connected Group Australia will replace the faulty product.*

NOTE:

There are many factors that impact the operating life of a modular DIN rail contactor, as a result Connected Switchgear warrants the range of contactors are free from manufacturing faults for a limited period of 5 years from the date of purchase. It is important to note that the warranty cover does not extend to cover a product that has failed as a result of having exceeded its original designed life cycle expectancy due to factors such as the type of switch load connected, utilization category, operating cycles, installed application and installed environment.

* See our website for full terms and conditions www.connectedswitchgear.com.au

[SELECTION GUIDE]

1. Determine that the installed application complies with the utilization category rating of the product.
2. Calculate the load current rating required.
3. Calculate the load total power required, and ensure the it corresponds to or less than the kW values tabled below (V x A x PFC = W)
4. Determine the daily duty cycle required (number of switching operations).
5. Consider the ambient temperature of the installation environment and derating factors.

[SELECTION GUIDE]

Product Selection Considerations for Light Duty Contactors								
Utilization Category	**AC1/AC-7A**	Slightly inductive loads in households appliances, i.e. mixers, blenders						
	AC3/AC-7B	Motor-loads for household appliances, i.e. fans, central vacuum						
Parameters		**Rated Output Voltage Ue (V)**	**Rated Current In (A)**					
			16	**20**	**25**	**40**	**63**	**100**
Maximum Load (kW)	AC1/AC-7A	230V	2.9	2.7	4.6	7.4	11.6	18.4
		400V	6.5*	8.0*	10.0*	16.0*	25.0*	38.0*
	AC3/AC-7B	230V	1.4	1.6	2.0	3.5	4.5	6.5
		400V	2.4*	2.8*	3.4*	6.0*	8.0*	11.0*

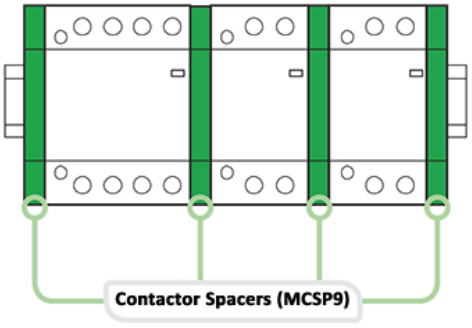
Note:
1. The values (kW) referenced above comply with IEC61095, where power factor correction AC-7A is 0.8 and AC-7B is 0.45
2. Depending on the load type connected, i.e. capacitive, inductive or resistive, and the load power factor correction, it may be possible to vary the kW rating values above. However, please ensure that the total load requirement does not exceed the product rated amperage.
3. On 3 phase configurations the maximum load per phase corresponds to the values above divided by 3.

Duty Cycle at Full Load Rating	100,000 Cycles

Note:
1. 1 open + 1 closed contact = 2 operations, 2 operations = 1 cycle.
2. Do not exceed 100 operations per day.
3. Calculating product life expectancy, at full load rating 50,000 operations divided by 20/day = 2,500 days.
4. Number of operating cycles will be higher where kW loads are less than those tabled above are applied
5. Where higher durability is required, the contactor should be upsized to the next higher current rating.

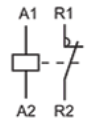
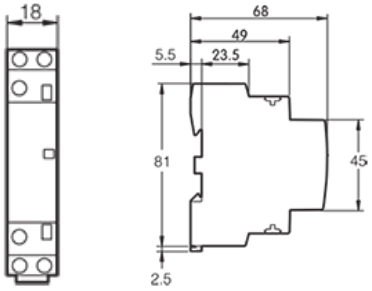
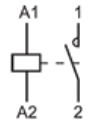
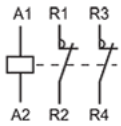
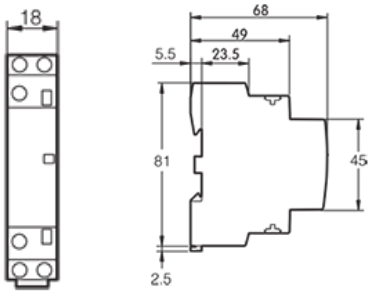
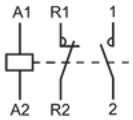
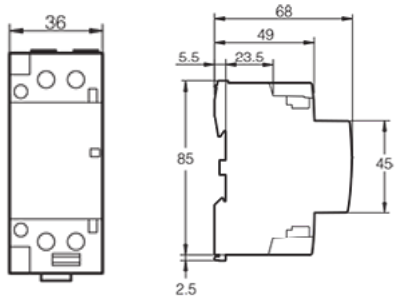
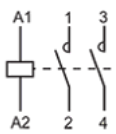
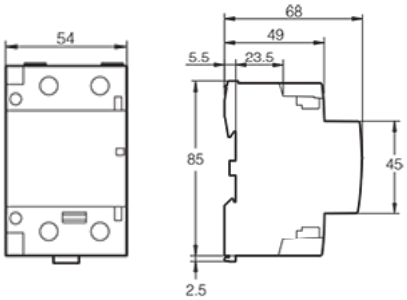
Installation Environment Considerations		
Normal Operating Temperature	-5°C - 40°C	
Maximum Operating Temperature	≤60°C	
Temperature Derating Factor*	40°C - 50°C	x 0.9

* Note:
1. Where the installation environment temperature exceeds the normal operating temperature, the kW load ratings table above must be derated by a factor of 0.9 i.e. kW rating x 0.9 = derated value.
2. When multiple contactors are installed in an enclosure where the temperature exceeds 50°C, it is necessary to install contactor spacers (part no. MCSP9) between each contactor to assist in heat dissipation. Failure to do so will reduce the life of the contactor or result in failure of the product.
3. Contactors should be mounted vertically.

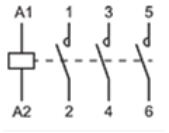
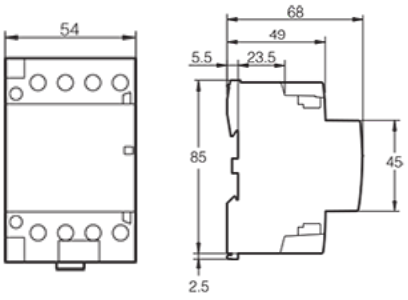
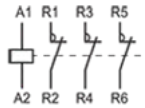
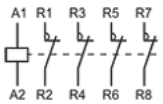
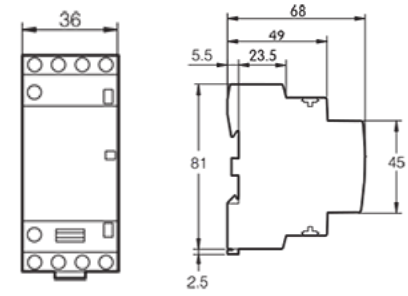
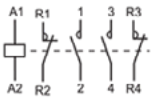
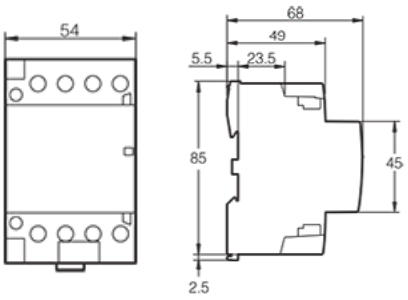
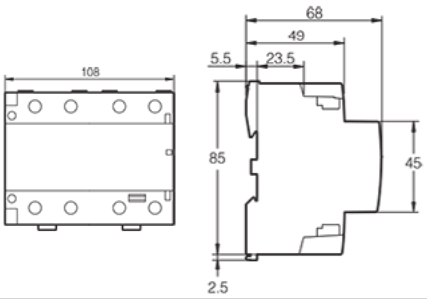


Coil Voltage Us (V)		**Rating**	**Solid Core**	**Stranded Core**
Cable Specifications	Control Circuit	16-100A	2 x 1.5mm²	2 x 2.5mm²
	Power Circuit	16-25A	1.5 - 6mm²	1 - 4mm²
		40-63A	6 - 25mm²	6 - 16mm²
		100A	6 - 35mm²	6 - 35mm²
Fastening Torque (Nm)	Main Circuit Terminal		0.8	3.5
	Control Circuit Terminal		0.8	

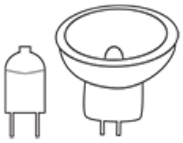
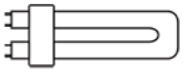
[SPECIFICATIONS]

Type	Product Code	Configuration	Width (mm)	Rated Operational Current (Ie)	Rated Operational Voltage (Ue)(V AC 50Hz)	Dimensions
Spacer	MCSP9	-	9	-	-	-
1P (contacts)						
	MC125C-1	1NC	18	25A	230V	
	MC125O-1	1NO				
2P (contacts)						
	MC116CO	1NC+1NO	18	16A	230V	
	MC125C	2NC		25A		
	MC125CO	1NC+1NO		25A		
	MC125O	2NO		25A		
	MC125C-24	2NC		25A	24V	
	MC125CO-24	1NC+1NO		25A		
	MC125O-24	2NO		25A		
	MC240CO	1NC+1NO	36	40A	230V	
	MC240C	2NC		40A		
	MC240O	2NO		40A		
	MC263CO	1NC+1NO		63A		
	MC263C	2NC		63A		
	MC263O	2NO		63A		
	MC3100O	2NO	54	100A	400V	

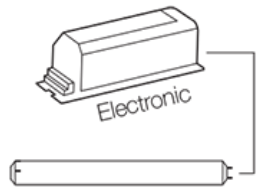
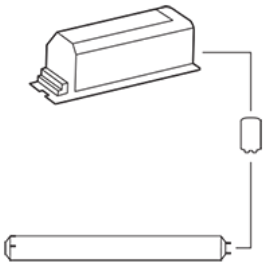
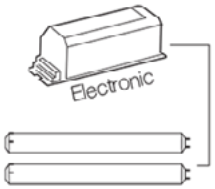
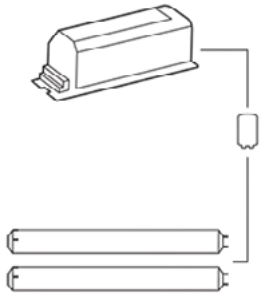
[SPECIFICATIONS]

3P (contacts)	Product Code	Configuration	Width (mm)	Rated Operational Current (Ie)	Rated Operational Voltage (Ue)(V AC 50Hz)	Dimensions
	MC340O-3	3NO	54	40A	400V	
	MC363C-3	3NC		63A		
	MC363O-3	3NO		63A		
4P (contacts)						
	MC225C	4NC	36	25A	400V	
	MC225CO	2NC+2NO				
	MC225O	4NO				
	MC340C	4NC	54	40A	400V	
	MC340CO	2NC+2NO				
	MC340O	4NO				
	MC363C	4NC		63A		
	MC363CO	2NC+2NO				
	MC363O	4NO				
	MC6100O	4NO	108	100A	400V	
	MC6100CO	2NC+2NO				

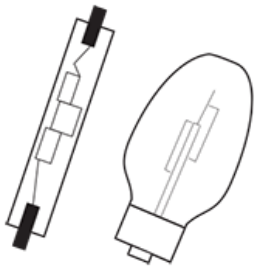
[LIGHTING APPLICATIONS]

CONTACTOR MAX LOAD RATING						
LED's	**Lamp Load (Watts)**	**Maximum Number of Light Fittings per Contactor Type**				
		16A	**25A**	**40A**	**63A**	**100A**
Non-Dimmable 230V Integrated Driver E27/GU10	4 - 12	35	54	86	135	214
	17 - 22	26	40	63	101	160
	30 - 40	18	28	44	70	111
	50	14	22	35	55	87
Dimmable 230V Integrated Driver GU10 	4 - 12	77	120	159	250	397
	17 - 22	56	88	118	185	294
	30 - 40	40	62	82	130	206
	50	31	48	65	102	162
High Bay Lighting 230V Integrated Driver 	100	3	5	6	9	14
	150	2	3	4	6	10
	200	1	2	4	6	10
Dimmable 12V External Driver 	1 - 5	77	120	180	220	349
	7 - 10	77	120	160	200	317
	15	56	88	160	200	317
Incandescent Lamps	**Lamp Load (Watts)**	**Maximum Number of Light Fittings per Contactor Type**				
		16A	**25A**	**40A**	**63A**	**100A**
Tungsten Halogen Lamps 230V 	40	36	57	76	120	190
	60	29	45	67	105	167
	75	24	38	63	100	159
	100	18	28	41	65	103
	150	12	18	29	45	71
	200	9	14	22	35	56
	300	6	10	15	23	37
	500	4	6	9	14	22
	1000	1	2	4	7	11
Halogen ELV 12V or 24V with Electronic Transformer 	20	26	40	139	218	346
	35	17	26	82	129	205
	50	12	18	60	94	149
	75	8	12	52	82	130
	100	4	6	35	55	87
	150	3	4	20	31	49
Compact Fluorescent Lamps (CFLs)	**Lamp Load (Watts)**	**Maximum Number of Light Fittings per Contactor Type**				
		16A	**25A**	**40A**	**63A**	**100A**
External Electronic Ballast 	5 - 7	17	27	49	76	121
	9 - 11	17	26	40	63	100
	15 - 26	14	22	36	57	90
Integrated Electronic Ballast 	5 - 15	35	54	86	135	214
	18 - 26	26	40	63	100	159

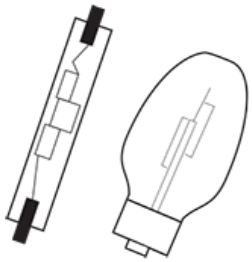
[LIGHTING APPLICATIONS]

CONTACTOR MAX LOAD RATING							
Fluorescent Tubes		Lamp Load (Watts)	Maximum Number of Light Fittings per Contactor Type				
			16A	25A	40A	63A	100A
Single Tube							
	**With Electronic Ballast**	15 - 20	14	22	36	57	90
		36	14	22	34	53	84
		40 - 42	14	22	29	45	71
		58 - 80	13	20	27	42	67
		115	13	20	25	39	62
	**With Starter Low Power Factor <0.9**	15 - 20	19	30	70	100	159
		36	18	28	60	90	143
		40	17	26	60	90	143
		42	15	24	55	83	132
		58 - 65	11	17	35	56	89
		80	10	15	30	48	76
		115	6	10	20	32	51
		140	6	10	16	26	41
	With Starter High Power Factor >0.9	15 - 20	13	20	36	57	90
		36	13	20	34	53	84
		40 - 42	13	20	29	45	71
		58-80	10	15	27	42	67
		115	10	15	25	39	62
Double Tubes							
	**With Electronic Ballast**	2 x 18	14	22	34	53	84
		2 x 20	14	22	29	45	71
		2 x 36 - 42	13	20	27	42	67
		2 x 58	13	20	25	39	62
		2 x 65	9	14	23	36	57
		2 x 80	9	14	20	31	49
		2 x 115	6	10	17	25	40
	**With Starter Low Power Factor <0.9**	2 x 18	26	40	50	78	124
		2 x 20	24	38	50	78	124
		2 x 36	19	30	44	69	110
		2 x 40	17	26	40	63	100
		2 x 42	15	24	40	63	100
		2 x 58	12	18	27	42	67
		2 x 65	10	16	27	42	67
		2 x 80	9	14	22	35	56
		2 x 115	6	10	16	25	40
	With Starter High Power Factor 0.9	2 x 18	14	22	34	53	84
		2 x 20	14	22	29	45	71
		2 x 36 - 42	13	20	27	42	67
		2 x 58	13	20	25	39	62
		2 x 65	9	14	23	36	57
		2 x 80	9	14	20	31	49
		2 x 115	6	10	17	25	40

[LIGHTING APPLICATIONS]

CONTACTOR MAX LOAD RATING							
Discharge Lamps		1000Lamp Load (Watts)	Maximum Number of Light Fittings per Contactor Type				
			16A	25A	40A	63A	100A
	High Pressure Mercury Vapour Lamps (Low Power Factor <0.9)	50	18	28	32	50	79
		80	12	18	24	37	59
		125	6	10	18	28	44
		250	4	6	10	15	24
		400	1	2	6	9	14
		700	-	-	4	5	8
	High Pressure Mercury Vapour Lamps (High Power Factor >0.9)	50	14	22	26	40	63
		80	10	16	22	34	54
		125	6	10	15	23	37
		250	4	6	9	14	22
		400	1	2	5	8	13
		700	-	-	3	5	8
		1000	-	-	2	3	5
	Low Pressure Sodium Vapour Lamps (Low Power Factor <0.9)	18	13	20	18	21	33
		35 - 55	6	9	14	20	32
		90	4	6	9	14	22
		135 - 180	3	4	6	8	13
	Low Pressure Sodium Vapour Lamps (High Power Factor >0.9)	18	5	8	12	24	38
		35	4	7	10	23	37
		55	3	5	10	19	30
		90	3	4	8	16	25
		135	1	2	5	7	11
		180	1	2	5	6	10
	High Pressure Sodium Lamps (Low Power Factor <0.9)	35	15	24	30	50	79
		50	10	15	22	34	54
		70	8	12	18	28	44
		110	6	10	14	22	35
		150	5	8	10	16	25
		250	3	5	6	10	16
		400	1	2	4	6	10
		1000	1	1	2	3	5
	High Pressure Sodium Lamps (High Power Factor >0.9)	35	12	18	31	50	79
		50	12	18	22	35	56
		70	8	12	16	25	40
		110	5	8	13	21	33
		150	4	6	8	13	21
		250	3	4	7	11	17
		400	1	2	5	8	13
		1000	1	1	2	3	5

[LIGHTING APPLICATIONS]

CONTACTOR MAX LOAD RATING							
Discharge Lamps		1000Lamp Load (Watts)	Maximum Number of Light Fittings per Contactor Type				
			16A	25A	40A	63A	100A
	Metal - Halide Lamp (Low Power Factor <0.9)	35	19	30	42	55	87
		70	11	17	26	36	57
		150	8	12	14	20	32
		250	5	8	9	14	22
		400	3	4	6	9	14
		1000	-	-	3	5	8
	Metal - Halide Lamp (High Power Factor >0.9)	35	12	18	22	39	62
		70	8	13	22	39	62
		150	5	8	12	22	35
		250	4	7	9	16	25
		400	1	2	5	7	11
		1000	1	1	2	3	5

[RELATED PRODUCTS]

MRCBO416C

RCD41040

MCB1610D

RCBO2610

MS3100

TME2