

GCR1-F series magnetic latching contactors

Magnetic latching contactors of both block and bar mounted types are fitted with a special electromagnet which enables them to remain in the "On" position when the coil is no longer energised.

Applications

The special properties of magnetic latching contactors make them suitable for a large number of applications.

Properties

- Retention of the sequence memory in automatic control equipment in the event of loss of control voltage.
- Energy saving, since the source of supply to the coil does not need to supply current when the contactor is latched in the closed state.
Change of state from "Closed" to "Open" by current signal through the coil.
- Unaffected by mains interference.
Utilisation of contactors beyond their breaking capacity, as operations are performed off-load.
Contactors are silent in the latched position.

Operation of the electromagnet

GCR1-F block contactors

- GCR1-F magnetic latching contactors are fitted with a double coil with 3 terminals comprising a latching winding and an unlatching winding. The 2 windings have a common point which can necessitate special wiring precautions when the latching supply is separate from the unlatching supply.
- The power supplies may be a.c. or d.c. For d.c. operation, the polarities indicated must be complied with.
- Operating precautions:
the 2 windings must not be supplied simultaneously,
a winding must not be supplied continuously,
supply to the coils must be via pulsed contacts.
- Manual opening: if the control voltage is not present, the contactor can be unlatched manually.

Applications

- Refineries, power stations, excitation circuits.
- Contactors remaining in the closed state for long periods. Examples: refineries, power supplies, low voltage distribution.
- Selective opening control.
- No unwanted opening and closing of the main power poles.
- Current carrying at voltages up to 1000 Volts.

Selection guide for utilisation category AC-3

Rated operational current in AC-3 (q ≤ 55℃)			Rated operational power (standard motor power ratings)												Reference
			220V		380V		415V		440V		500V		660V		
			240V		400V								690V		
440V	500V	660V 690V	kW	HP	kW	HP	kW	HP	kW	HP	kW	HP	kW	HP	
150	35	130	40	54	75	100	80	110	80	110	100	-	65	-	GCR1-F1503
150	35	130	40	54	75	100	80	110	80	110	100	-	65	-	GCR1-F1504
185	175	140	55	75	90	185	100	136	100	136	110	-	100	136	GCR1-F1853
185	175	140	55	75	90	185	100	136	100	136	110	-	100	136	GCR1-F1854
265	245	230	75	100	132	180	140	180	140	190	160	-	147	200	GCR1-F2653
265	245	230	75	100	132	180	140	180	140	190	160	-	147	200	GCR1-F2654
400	385	365	110	150	200	270	220	300	250	340	280	-	185	250	GCR1-F4003
400	385	365	110	150	200	270	220	300	250	340	280	-	185	250	GCR1-F4004
500	500	435	147	200	250	340	280	380	295	400	335	-	335	-	GCR1-F5003
500	500	435	147	200	250	340	280	380	295	400	335	-	335	-	GCR1-F5004
630	540	470	200	270	335	450	375	500	400	545	450	610	450	610	GCR1-F6303
630	540	470	200	270	335	450	375	500	400	545	450	610	450	610	GCR1-F6304

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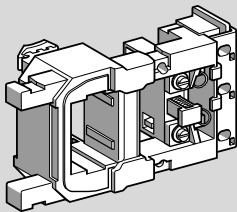
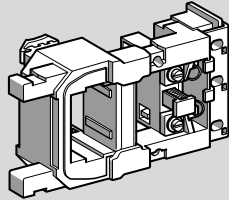
GCR2-F series reversing magnetic latching contactors

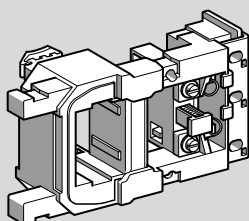
Rated operational current in AC-3 (q ≤ 55 °C)			Rated operational power (standard motor power ratings)												Reference
			220V		380V		415V		440V		500V		660V 690V		
			240V	400V											
440V	500V	660V 690V	kW	HP	kW	HP	kW	HP	kW	HP	kW	HP	kW	HP	
150	35	130	40	54	75	100	80	110	80	110	100	-	65	-	GCR2-F1503
150	35	130	40	54	75	100	80	110	80	110	100	-	65	-	GCR2-F1504
185	175	140	55	75	90	185	100	136	100	136	110	-	100	136	GCR2-F1853
185	175	140	55	75	90	185	100	136	100	136	110	-	100	136	GCR2-F1854
265	245	230	75	100	132	180	140	180	140	190	160	-	147	200	GCR2-F2653
265	245	230	75	100	132	180	140	180	140	190	160	-	147	200	GCR2-F2654
400	385	365	110	150	200	270	220	300	250	340	280	-	185	250	GCR2-F4003
400	385	365	110	150	200	270	220	300	250	340	280	-	185	250	GCR2-F4004
500	500	435	147	200	250	340	280	380	295	400	335	-	335	-	GCR2-F5003
500	500	435	147	200	250	340	280	380	295	400	335	-	335	-	GCR2-F5004
630	540	470	200	270	335	450	375	500	400	545	450	610	450	610	GCR2-F6303
630	540	470	200	270	335	450	375	500	400	545	450	610	450	610	GCR2-F6304

Coils for magnetic latching contactors GCR1-F

Standard coils

Usual voltages		Resistance of winding at $\theta = 20^{\circ}\text{C}$		Reference	Voltage code	Weigh kg
50...400Hz 50Hz, 60Hz or $\approx$ V	Latching Ω	Unlatching Ω				
For contactors GCR1 F150						
48	-	1.98	230.8	GLX0 FF005	E7	0.440
110	-	9.35	1453	GLX0 FF006	F7	0.440
127	-	11.61	1788	GLX0 FF007	G7	0.440
208	-	23.50	4098	GLX0 FF020	L7	0.440
220/230	-	37.55	5139	GLX0 FF008	M7	0.440
-	240	45.16	6544	GLX0 FF009	U7	0.440
-	380/400	114.10	12 447	GLX0 FF010	Q7	0.440
-	415	139.50	16 717	GLX0 FF011	N7	0.440
For contactors GCR1 F185						
48	-	1.42	220	GLX0 FG005	E7	0.560
110	-	6.92	1339	GLX0 FG006	F7	0.560
127	-	8.45	1676	GLX0 FG007	G7	0.560
208	-	21.30	3169	GLX0 FG020	L7	0.560
220/230	-	26.27	4729	GLX0 FG008	M7	0.560
-	240	32.95	4729	GLX0 FG009	U7	0.560
-	380/400	82.29	11 885	GLX0 FG010	Q7	0.560
-	415	102.30	14 305	GLX0 FG011	N7	0.560
For contactors GCR1 F265						
48	-	1.34	183.4	GLX0 FH005	E7	0.780
110	-	6.90	1031	GLX0 FH006	F7	0.780
127	-	8.56	1325	GLX0 FH007	G7	0.780
208	-	20.20	2654	GLX0 FH020	L7	0.780
220/230	-	25.77	4090	GLX0 FH008	M7	0.780
-	240	33.03	5002	GLX0 FH009	U7	0.780
-	380/400	78.39	11 803	GLX0 FH010	Q7	0.780
-	415	102.9	15 006	GLX0 FH011	N7	0.780
For contactors GCR1 F400						
48	-	1.32	90.5	GLX0 FJ005	E7	1.120
110	-	8.09	813	GLX0 FJ006	F7	1.120
127	-	9.79	1027	GLX0 FJ007	G7	1.120
208	-	24.40	2643	GLX0 FJ020	L7	1.120
220/230	-	30.14	3309	GLX0 FJ008	M7	1.120
-	240	37.02	4074	GLX0 FJ009	U7	1.120
-	380/400	94.80	9380	GLX0 FJ010	Q7	1.120
-	415	121.10	11 763	GLX0 FJ011	N7	1.120
For contactors GCR1 F500						
48	-	1.57	166	GLX0 FK005	E7	1.220
110	-	7.53	916	GLX0 FK006	F7	1.220
127	-	9.56	1159	GLX0 FK007	G7	1.220
208	-	23.60	2981	GLX0 FK020	L7	1.220
220/230	-	28.81	3733	GLX0 FK008	M7	1.220
-	240	35.67	4595	GLX0 FK009	U7	1.220
-	380/400	89.56	10 570	GLX0 FK010	Q7	1.220
-	415	112.06	13 256	GLX0 FK011	N7	1.220
For contactors GCR1 F630						
48	-	0.87	204	GLX0 FL005	E1	1.460
110	-	5.20	1423	GLX0 FL006	F7	1.460
127	-	6.45	1830	GLX0 FL007	G7	1.460
208	-	20.20	2961	GLX0 FL020	L7	1.460
220/230	-	25.36	4603	GLX0 FL008	M7	1.460
-	240	25.36	5658	GLX0 FL009	U7	1.460
-	380/400	60.95	10 676	GLX0 FL010	Q7	1.460
-	415	77.97	13 003	GLX0 FL011	N7	1.460





Coils for contactors GCR1-F

Standard coils

Coils with two windings with common point, allowing the use of two separate power sources for latching and unlatching

Usual voltages		Resistance of winding at $\theta = 20^{\circ}\text{C}$		Reference	Voltage code	Weight kg
50...400Hz 50Hz, 60Hz or --- V	Latching Ω	Unlatching Ω				
For contactors GCR1 F150						
220 24	29.5	39.5	GLX0 FF224	MB7	0.440	
For contactors GCR1 F185						
220 24	26.5	19	GLX0 FG224	MB7	0.560	
For contactors GCR1 F265						
220 24	26	29.5	GLX0 FH224	MB7	0.780	
For contactors GCR1 F400						
220 24	30	23	GLX0 FJ224	MB7	1.120	
For contactors GCR1 F500						
220 24	29	26	GLX0 FK224	MB7	1.220	
For contactors GCR1 F630						
220 24	26	41	GLX0 FL224	MB7	1.460	