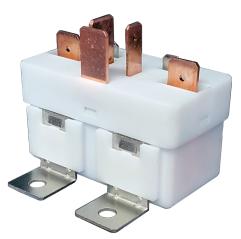


RoHS



- High current 12VDC motor reversing
- Small and compact size
- Easy mounting options
- Industry standard 'fast-on' style terminals
- Simplified electrical connections
- Cost effective

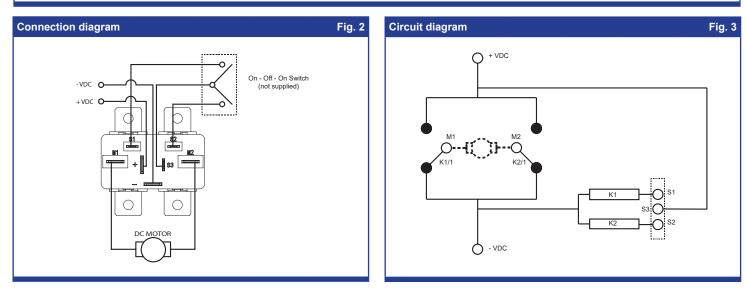
Contacts Ordering Code Contact arrangement 2 x SPDT configured for motor reversing D D C R - 1 2 - M 1 Max. switching voltage DC 30VDC (current dependent - See Fig. 1) Series DGR DGR Min. switching current / voltage DC 50/12/DC Series DGR DGR Max. switching current make 180A Coll code 12 : 12/DC 24 : 24/DC Minal contact resistance <100mQ at 0.1A/6VDC 24 : 24/DC 24 : 24/DC 24 : 24/DC Rated voltage (U.) DC 12 V or 24/DC (See Table 1) Munting brackets NIL : No brackets supplied. Max release voltage 20.1U. Munting brackets NIL : No brackets supplied. Rated voltage (U.) DC 12 W or 24/DC (See Table 1) Munting brackets supplied. Max release voltage 20.1U. Munting brackets supplied. Mit 4 x metal brackets supplied. Rated voltage (U.) DC 12/V or 24/DC (See SnSH1 NIL : No brackets supplied. Mit 4 x metal brackets supplied. Rated voltage interestance 100MΩ at 500/DC, 50% SH1 Delectric strength 00 to contact 500/Ums, 1min 10 10					Compliant	
Contact materialAgSnOInOD G R + 1 2 - M 1Max. switching voltageDC30VDC (current dependent - See Fig. 1)SeriesMin. switching current / voltage0.5A/12VDCSeriesRated loadDC180460A (limited by NC contact rating)DGMax. switching currentmake180AInitial contact resistance<100mQ at 0.1A/6VDCCoil codeCoil12V or 24VDC (See Table 1)Mounting bracketsMust release voltage20.1U,Must release voltageNii 4 x metal brackets supplied.Operating rangeSee Table 1Nii 4 x metal brackets supplied lose.Insulation100MQ at 500VDC, 50%RHNii 4 x metal brackets supplied lose.Insulation resistance100MQ at 500VDC, 50%RHNii 4 x metal brackets supplied lose.Deferating timetyp. 7msRelease timeColicate timetyp. 2msSeriesElectrical lifeops. 1 x 10°Mechanical lifeops. 1 x 10°Motor resistanceDi 0.127mm 10-40Hz / 40-70Hz:5gWitration resistanceDi 0.127mm 10-40Hz / 40-70Hz:5g </th <th>Contacts</th> <th></th> <th colspan="3">Ordering Code</th>	Contacts		Ordering Code			
Max. switching voltageOOVDC (current dependent - See Fig. 1)Min. switching current / voltage0.5A/12VDCRated loadDC180A60A (limited by NC contact rating)Max. switching currentmake180ACall codeInitial contact resistance10/00 Qu 0.1A/6VDCColiZ4 : 24VDCRated voltage (U.)DCMust release voltage20.1U.Operating rangeSee Table 1Must release voltage20.1U.Operating rangeSee Table 1Rated voltage (U.)DC1.6WNI : No brackets supplied.Insulation1.6WInsulation resistance100MQ at 500VDC, 50%RHDielectric strengthcontact 500Vms, tminCeneral Data500Vms, tminCheral Data1.1 10°Electrical lifeops. 1 x 10°Release timetyp. 2msElectrical lifeops. 1 x 10°Muchanical lifeops. 1 x 10°Ambient temperatureoperating -40 to +45°CGhock resistancefundioMustation resistance100gWization resistance100gWization resistance100gWization resistance100, 12, 11msChereral Data20, 11msChereral Data20, 11msChereral Lifeops. 1 x 10°Muchanical lifeops.	Contact arrangement		2 x SPDT configured for motor reversing			
Min. switching current / voltage 0.54/12/DC Series Rated load DC1 80A/60A (limited by NC contact rating) DGR Max. switching current make 180A Coll.code 12: 12/DC Initial contact resistance <100mQ at 0.1A/6VDC	Contact material		AgSnOInO	D G R - 1 2 - M 1		
Rated loadDC180A/60A (limited by NC contact rating)DGRMax. switching currentmake180AColl.codeInitial contact resistance<100mΩ at 0.1A/6VDC	Max. switching voltage	DC	30VDC (current dependent - See Fig. 1)			
Max. switching currentmake180AMax. switching currentbreak60ACoil codeInitial contact resistance<100mΩ at 0.1A/6VDC	Min. switching current / voltage		0.5A/12VDC	Series		
Initial contact resistance60ACall codeInitial contact resistance<100mΩ at 0.14/6VDC	Rated load	DC1	80A/60A (limited by NC contact rating)	DGR		
Initial contact resistance<100mΩ at 0.1A/60DC12: 12/DCCoil12/ or 24/DC (See Table 1)24: 24/DCMust release voltage20.1U _n Must release voltage20.1U _n Operating rangeSee Table 1Must release voltageMust release voltageSee Table 11.6WMust release to the power consumption1.6WInsulation resistance100MΩ at 500VDC, 50%RHMit 4 x metal brackets supplied loose.Dielectric strengthcoil to contact500Vms, 1minCeneral Data500Vms, 1minMit 4 x metal brackets supplied fitted.Operating timetyp.7msRelease timetyp.2msElectrical lifeops.1 x 10°Electrical lifeops.1 x 10°Electrical lifeops.1 x 10°Ambient temperature40 to +85°CAnbient temperature00g.Moto +155°C100Shock resistancefunctionalMust resistance100g.Vibration resistance100Must resistance100	Max. switching current	make	180A			
Coil24: 24 VDCRated voltage (U _n)DC12V or 24VDC (See Table 1)Must release voltage0perating rangeSee Table 1Munting bracketsRated power consumption1.6WMit x metal brackets supplied.Insulation resistance100MΩ at 500VDC, 50%RHMit 4 x metal brackets supplied losse.Dielectric strengthcoil to contact500Vrms, 1mincontact to contact500Vrms, 1minMit 4 x metal brackets supplied litted.Dielectric strengthcoil to contact500Vrms, 1minCeneral Data0perating timetyp.Operating timetyp.7msRelease timetyp.tilteops.1 x 10 ⁵ Mechanical lifeops.1 x 10 ⁵ Ambient temperatureoperating-40 to +85°CShock resistancefunctional20g, 11msdestructiva100g00gVibration resistanceDA 1.27mm 10-40Hz / 40-70Hz:5g		break	60A	<u>Coil code</u>		
Rated voltage (U_n)DC12V or 24VDC (see Table 1)Must release voltage20.1U_aMunting bracketsOperating rangeSee Table 1Munting brackets suppliedRated power consumption1.6WM: 4 x metal brackets supplied loose.Insulation100MΩ at 500VDC, 50%RHM: 4 x metal brackets supplied loose.Insulation resistance100MΩ at 500VTms, 1minM: 4 x metal brackets supplied loose.Ceneral Data500VTms, 1minFig. 1Operating timetyp. 7msFig. 1Release timetyp. 2ms100°Electrical lifeops. 1 x 10°Mother temperatureoperating 4.0 to +85°CShock resistancefunctionalMother temperature00gVibration resistance00, 11msGeneration20, 11msAmbient temperature00gMust temperature00gVibration resistancefunctional0.1.27mm 10-40Hz / 40-70Hz:5g0.2	Initial contact resistance		<100mΩ at 0.1A/6VDC	12 : 12VDC		
Must release voltage20.1 U.Mounting bracketsOperating rangeSee Table 1Mounting bracketsRated power consumption1.6WMil: No brackets supplied.InsulationInsulation resistance100MΩ at 500VDC, 50%RHMil: 4 x metal brackets supplied loose.Dielectric strengthcoil to contact500Vrms, 1mincontact to contact500Vrms, 1minMounting bracketsGeneral DataComparing timetyp.Operating timetyp.7msRelease timetyp.2msElectrical lifeops.1 x 10°Mochnical lifeops.1 x 10°Environmental40 to +85°CAmbient temperatureoperating40 to +85°CShock resistancefunctional20g. 11msdestructive100g10Vibration resistanceDA 1.27mm 10-40Hz / 40-70Hz:5g	Coil			24 : 24VDC		
Operating rangeSee Table 1NIL : No brackets supplied.Rated power consumption1.6WML : No brackets supplied loose.Insulation100MΩ at 500VDC, 50%RHMI : 4 x metal brackets supplied loose.Dielectric strengthcoil to contact500Vrms, 1mincontact to contact500Vrms, 1minFig. 10Ceneral Data500Vrms, 1minOperating timetyp.Operating timetyp.timetyp.Release timetyp.tipetx 10°Electrical lifeops.Ambient temperatureoperating40 to +85°CShock resistancefunctional20g, 11ms100Chester to the toto toto to 100Vibration resistancefunctionalVibration resistancefunctionalOperating time0.2Operating time0.0Ambient temperatureoperating40 to +155°C0.12/mm 10-40Hz / 40-70Hz:5gVibration resistancefunctionalVibration resistancefunctional<	Rated voltage (U _n)	DC	12V or 24VDC (See Table 1)			
Rated power consumption1.6WM: 4 x metal brackets supplied loose. MI: 4 x	Must release voltage		≥0.1Un	Mounting brackets		
InsulationM1 : 4 x metal brackets supplied fitted.Insulation resistance100MΩ at 500VDC, 50%RHDielectric strengthcoil to contactcontact to contact500Vrms, 1mincontact to contact500Vrms, 1minCeneral DataOperating timetyp.Prelease timetyp.tipe timetyp.Electrical lifeops.ops.1 x 10°Mechanical lifeops.time time timetyp.Ambient temperatureoperatingoperating-40 to +155°CShock resistancefunctional20g, 11ms10destructive100gVibration resistanceD1.27mm 10-40Hz / 40-70Hz:5g	Operating range		See Table 1	NIL : No brackets supplied.		
Insulation resistance100MΩ at 500VDC, 50%RHDielectric strengthcoil to contact500Vrms, 1mincontact to contact500Vrms, 1minGeneral DataOperating timetyp.TmsRelease timetyp.Release timetyp.If feed ops.1 x 10 ⁵ Mechanical lifeops.Image: the temperatureoperating40 to +155°CShock resistancefunctional20g, 11msConcertVibration resistance100gVibration resistance001.27mm 10-40Hz / 40-70Hz:5g	Rated power consumption		1.6W	M : 4 x metal brackets supplied loose.		
Dielectric strengthcoil to contact500Vrms, 1minContact to contact500Vrms, 1minGeneral DataOperating timetyp7msRelease timetyp2msElectrical lifeops1 x 10°Mechanical lifeoperating-40 to +85°CAmbient temperatureoperating-40 to +85°CShock resistancefunctional20g, 11msOutputDA 1.27mm 10-40Hz / 40-70Hz:5gOutput	Insulation			M1 : 4 x metal brackets supplied fitted.		
Contact to contact500Vrms, 1minCeneral DataOperating timetyp.TmsRelease timetyp.timetyp.Electrical lifeops.timetx 10 ⁵ Mechanical lifeops.timetx 10 ⁷ InterviewAmbient temperatureoperating40 to +155°CShock resistancefunctional20g, 11msVibration resistance100gVibration resistanceDA 1.27mm 10-40Hz / 40-70Hz:5g	Insulation resistance		100MΩ at 500VDC, 50%RH			
General Data Operating time typ. The sease time typ. Electrical life ops. Operating time 1x 10 ⁵ Mechanical life ops. Operating time 1x 10 ⁵ Importation 1x 10 ⁷ Environmental -40 to +85°C Shock resistance -40 to +155°C Shock resistance 100g Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g	Dielectric strength	coil to contact	500Vrms, 1min			
Operating timetyp.7msRelease timetyp.2msElectrical lifeops.1 x 10 ⁵ Mechanical lifeops.1 x 10 ⁷ EnvironmentalAmbient temperatureoperating-40 to +85°C10Shock resistancefunctional20g, 11ms20g, 11msdestructive100gVibration resistanceDA 1.27mm 10-40Hz / 40-70Hz:5g		contact to contact	500Vrms, 1min			
Release time typ. Electrical life ops. 1 x 10 ⁵ Mechanical life ops. 1 x 10 ⁷ Environmental Ambient temperature operating -40 to +85°C -40 to +155°C Shock resistance functional 20g, 11ms destructive 100g Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g	General Data					
Electrical life ops. 1 x 10 ⁵ Mechanical life ops. 1 x 10 ⁷ Environmental 1 x 10 ⁵ Ambient temperature operating 40 to +85°C Shock resistance 40 to +155°C Shock resistance 100g Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g	Operating time	typ.	7ms		Fig. 1	
Mechanical life ops. 1 x 10 ⁷ Environmental Ambient temperature operating -40 to +85°C 40 to +155°C Shock resistance functional 20g, 11ms destructive 100g Vibration resistance	Release time	typ.	2ms			
Mechanical lifeops.1 x 107EnvironmentalAmbient temperatureoperating-40 to +85°C40 to +155°C-40 to +155°CShock resistancefunctional20g, 11ms-40 to -155°C10-40 to -1000100gVibration resistanceDA 1.27mm 10-40Hz / 40-70Hz:5g	Electrical life	ops.	1 x 10 ⁵	100		
Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g 0.2	Mechanical life	ops.	1 x 10 ⁷			
Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g 0.2	Environmental					
Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g 0.2	Ambient temperature	operating	-40 to +85°C	₽ 10 		
Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g 0.2		storage	-40 to +155°C			
Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g 0.2	Shock resistance	functional	20g, 11ms			
Vibration resistance DA 1.27mm 10-40Hz / 40-70Hz:5g 0.2 0.2 1.27mm 10-40Hz / 40-70Hz:5g 1.20		destructive	100g			
DA 0.5mm 100-500Hz: 10g 1 10 100	Vibration resistance		DA 1.27mm 10-40Hz / 40-70Hz:5g	0.2		
			DA 0.5mm 100-500Hz: 10g			
Dimensions L x W x H 58 x 35 x 46.5 (including terminals - see Fig. 4) Switching Voltage (VDC)	Dimensions	L x W x H	58 x 35 x 46.5 (including terminals - see Fig. 4)	Switching Volt	age (VDC)	
Weight approx. 96g depending on mounting brackets	Weight	approx.	96g depending on mounting brackets			



DGR Series DC Motor Reverser Relay

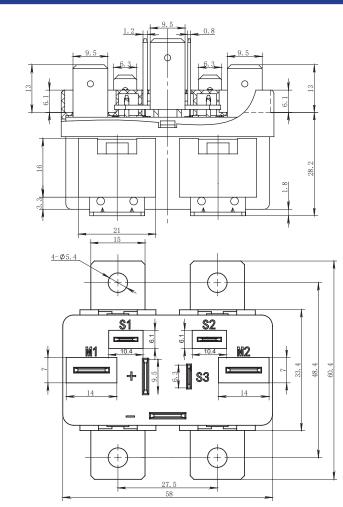
Coil Data Table 1							
Nominal voltage (VDC)	Coil resistance (Ω) ±10%	Must operate voltage max. (VDC)	Allowable voltage max. (VDC)*	Must release voltage min. (VDC)			
12	90	7.2	20.5	1.2			
24	330	14.4	39.1	2.4			
	(VDC)	Nominal voltage (VDC) (Ω) ±10% 12 90	Nominal voltage (VDC) (Ω) $\pm 10\%$ voltage max. (VDC)12907.2	Nominal voltage (VDC)Oom of the control of the contr			

* At ambient temperature of 85°C, maximum allowable voltage should be reduced by 28%.



Dimensions (mm)

DGR 010622FW



Specifications are subject to change without notice. E&OE

Fig. 4