

# Definite Purpose Contactors 1, 2 and 3 pole Type GDP



- Definite Purpose Contactors
- Switching up to 100A resistive, 90A inductive
- Line Voltage up to 600VAC on most sizes
- Control voltage up to 480VAC
- Screw or box lug terminals available on most sizes
- Fast-on coil and power terminal
- Hp ratings on 3-pole contactors
- UL recognized and CSA approved for US and Canada
- Cost effective

## Product Description

Power contactors specifically designed for the OEM when contactor, performance and cost must be optimized. Perfect choice for HVAC, lighting, pumps, compressors, pools, spas,

welders, etc. Available in standard 1, 2 and 3-pole type.

## Ordering Key **GDP 40 1 S L 120V 01**

Product Series	_____
Amperage Rating	_____
Number of Poles	_____
Optional Shunt	_____
Load Terminals	_____
Coil Voltage	_____
Position of Coil Terminals	_____
Auxiliary Output	_____

## Type Selection

Product Series	Amperage Rating	Number of Poles	Optional Shunt	Load Terminals
<b>GDP</b>	<b>25:</b> 25 Amps	<b>1:</b> 1 Pole	<b>S:</b> With Shunt	<b>L:</b> Lug*
	<b>32:</b> 32 Amps	<b>2:</b> 2 Poles	<b>Blank:</b> No Shunt	<b>S:</b> Screw**
	<b>40:</b> 40 Amps	<b>3:</b> 3 Poles		
	<b>50:</b> 50 Amps			
	<b>60:</b> 60 Amps			
	<b>75:</b> 75 Amps			
	<b>90:</b> 90 Amps			

Coil Voltage	Position of Coil Terminals (3-pole only)	Auxiliary Output
<b>24V:</b> 24 VAC <b>120V:</b> 110/120 VAC <b>220V:</b> 220 VAC <b>277V:</b> 277 VAC <b>480V:</b> 480 VAC	<b>Blank:</b> bottom <b>T:</b> top	<b>01:</b> 1 NC*** <b>Blank:</b> none

\* Lug and Fast-On load terminals.  
Fast-on control terminals

\*\* Screw and Fast-On load terminals.  
Fast-on control terminals

\*\*\* Available only on 1 Pole contactors

See page 2 for list of available part numbers

**Selection Guide**

Amperage Rating	Terminal Type	Coil Voltage	1 Pole with 1 Aux	1 Pole with shunt	2 Pole	3-Pole
25 Amps	Screw	24 VAC	GDP251S24V01	<b>GDP251SS24V</b>	<b>GDP252S24V</b>	GDP253S24V
		120 VAC	GDP251S120V01	<b>GDP251SS120V</b>	<b>GDP252S120V</b>	GDP253S120V
		220 VAC	GDP251S220V01	<b>GDP251SS220V</b>	GDP252S220V	GDP253S220V
		277 VAC	GDP251S277V01	GDP251SS277V	GDP252S277V	GDP253S277V
		480 VAC	GDP251S480V01	GDP251SS480V	GDP252S480V	GDP253S480V
	Lug	24 VAC	GDP251L24V01	GDP251SL24V	GDP252L24V	<b>GDP253L24V</b>
		120 VAC	GDP251L120V01	GDP251SL120V	GDP252L120V	<b>GDP253L120V</b>
		220 VAC	GDP251L220V01	GDP251SL220V	GDP252L220V	<b>GDP253L220V</b>
		277 VAC	GDP251L277V01	GDP251SL277V	GDP252L277V	GDP253L277V
		480 VAC	GDP251L480V01	GDP251SL480V	GDP252L480V	GDP253L480V
32 Amps	Screw	24 VAC	GDP321S24V01	<b>GDP321SS24V</b>	<b>GDP322S24V</b>	GDP323S24V
		120 VAC	GDP321S120V01	<b>GDP321SS120V</b>	<b>GDP322S120V</b>	GDP323S120V
		220 VAC	GDP321S220V01	<b>GDP321SS220V</b>	<b>GDP322S220V</b>	GDP323S220V
		277 VAC	GDP321S277V01	GDP321SS277V	GDP322S277V	GDP323S277V
		480 VAC	GDP321S480V01	GDP321SS480V	GDP322S480V	GDP323S480V
	Lug	24 VAC	GDP321L24V01	GDP321SL24V	GDP322L24V	<b>GDP323L24V</b>
		120 VAC	GDP321L120V01	GDP321SL120V	GDP322L120V	<b>GDP323L120V</b>
		220 VAC	GDP321L220V01	GDP321SL220V	GDP322L220V	GDP323L220V
		277 VAC	GDP321L277V01	GDP321SL277V	GDP322L277V	GDP323L277V
		480 VAC	GDP321L480V01	GDP321SL480V	GDP322L480V	GDP323L480V
40 Amps	Screw	24 VAC	GDP401S24V01	GDP401SS24V	<b>GDP402S24V</b>	GDP403S24V
		120 VAC	GDP401S120V01	GDP401SS120V	<b>GDP402S120V</b>	GDP403S120V
		220 VAC	GDP401S220V01	GDP401SS220V	<b>GDP402S220V</b>	GDP403S220V
		277 VAC	GDP401S277V01	GDP401SS277V	GDP402S277V	GDP403S277V
		480 VAC	GDP401S480V01	GDP401SS480V	GDP402S480V	GDP403S480V
	Lug	24 VAC	GDP401L24V01	GDP401SL24V	<b>GDP402L24V</b>	<b>GDP403L24V</b>
		120 VAC	GDP401L120V01	GDP401SL120V	<b>GDP402L120V</b>	<b>GDP403L120V</b>
		220 VAC	GDP401L220V01	GDP401SL220V	<b>GDP402L220V</b>	<b>GDP403L220V</b>
		277 VAC	GDP401L277V01	GDP401SL277V	GDP402L277V	GDP403L277V
		480 VAC	GDP401L480V01	GDP401SL480V	GDP402L480V	GDP403L480V
50 Amps	Lug	24 VAC				<b>GDP503L24V</b>
		120 VAC				<b>GDP503L120V</b>
		220 VAC				<b>GDP503L220V</b>
		277 VAC				GDP503L277V
		480 VAC				GDP503L480V
60 Amps	Lug	24 VAC				<b>GDP603L24V</b>
		120 VAC				<b>GDP603L120V</b>
		220 VAC				<b>GDP603L220V</b>
		277 VAC				GDP603L277V
		480 VAC				GDP603L480V
75 Amps	Lug	24 VAC				<b>GDP753L24V</b>
		120 VAC				<b>GDP753L120V</b>
		220 VAC				<b>GDP753L220V</b>
		277 VAC				GDP753L277V
		480 VAC				GDP753L480V
90 Amps	Lug	24 VAC				<b>GDP903L24V</b>
		120 VAC				<b>GDP903L120V</b>
		220 VAC				<b>GDP903L220V</b>
		277 VAC				GDP903L277V
		480 VAC				GDP903L480V

Part numbers in bold font indicate stock code A items.  
 All other part numbers are stock code D.

**Technical Specifications**

1 Pole					
Model	Voltage	FLA	LRA	Horsepower	Resistive Rating
GDP251	240/277	25	150	2*	35*
GDP321	240/277	32	200	2*	40
GDP401	240/277	40	240	3*	50
2 Pole					
GDP252	240/277	25	150	3*	35*
	480	25*	125*	-	35*
	600	25*	100*	-	35*
GDP322	240/277	32	200	3*	40
	480	32*	150	-	40
	600	32*	150*	-	40
GDP402	240/277	40	240	3*	50
	480	40*	200	-	50
	600	40*	160	-	50
3 Pole					
GDP253	240/277	25	150	10*	35*
	480	25*	125*	15*	35*
	600	25*	100*	20*	35*
GDP323	240/277	32	200	10	40
	480	32*	150*	15	40
	600	32*	120*	20*	40
GDP403	240/277	40	240	10	50
	480	40*	200*	20	50
	600	40*	160*	25*	50
GDP503	240/277	50	300	15	65*
	480	50*	250*	25*	65*
	600	50*	200*	25*	65*
GDP603	240/277	60	360	20	75
	480	60*	300*	30	75
	600	60*	240*	30	75
GDP753	240/277	75	450	25	90
	480	75*	375	50	90
	600	75*	300	50	90
GDP903	240/277	90	540	30	120*
	480	90*	450	60	120*
	600	90*	360	60	120*

**Coil Specifications**

1 Pole and 2 Pole Contactors					
Model	In-rush VA	Sealed VA	Operational Voltage	Drop-out Voltage	Frequency
All 1P and 2P	55	13	(85%~110%) Uc	(20% ~ 65%) Uc	50 / 60 Hz
3 Pole Contactors					
GDP253 ~ GDP403	51	12	(85%~110%) Uc	(20% ~ 65%) Uc	50 / 60 Hz
GDP503 ~ GDP603	83	14			
GDP753 ~ GDP903	165	30			

Uc - nominal coil voltage

\* New ratings effective May 2018.

## Environmental Specification

- Operating Temperature:  
 Temperature  $\leq 35^{\circ}\text{C}$  in 24h period.  
 $-5 \sim 40^{\circ}\text{C}$  ( $+23 \sim 104^{\circ}\text{F}$ ) - full current rating.  
 $41 \sim 50^{\circ}\text{C}$  ( $106 \sim 122^{\circ}\text{F}$ ) - 0.875 de-rating factor  
 $51 \sim 60^{\circ}\text{C}$  ( $124 \sim 140^{\circ}\text{F}$ ) - 0.750 de-rating factor  
 $61 \sim 70^{\circ}\text{C}$  ( $142 \sim 158^{\circ}\text{F}$ ) - 0.625 de-rating factor
- Storage Temperature:  $-25 - +55^{\circ}\text{C}$  ( $-13 \sim 131^{\circ}\text{F}$ )
- Relative Humidity: less than 50% @ $40^{\circ}\text{C}$ , non-condensing
- Shock and Vibration: do not subject product to shock and vibration
- Pollution Degree: 2
- Altitude:  $\leq 2000\text{m}$
- Installation:  $\leq 5^{\circ}$  from vertical plane



## Agency Approvals, Conformance

- Agency approvals: UL file: E236208, UL category: NLDX2, NLDX8
- CSA file: 268090, Class 3211-04, 3211-84
- SCCR rating: 5K rms symmetrical Amperes, 600V max, when protected by UL listed fuse
- CE: EN 60947-4-1:2010+A1
- Utilization categories: AC-1, AC-8a
- Environmental: RoHS

## Connection Diagrams

1 Pole with 1 auxiliary contact  
 GDP251...01, GDP321..01, GDP401..01



1 Pole with shunt  
 GDP251, GDP321, GDP401



2 Pole  
 GDP252, GDP322, GDP402



3 Pole  
 GDP253, GDP323, GDP403  
 GDP503, GDP603, GDP753, GDP903



1/L1, 2/T1, 3/L2, 4/T2, 5/L3, 6/T3 are the main power contacts  
 11, 12 are low current Normally Closed auxiliary contacts

A1, A2 are coil contacts

## Auxiliary Contact Specifications

For 1 Pole Contactors with 01 suffix

Ith (A)	Ui (V)	AC (VA)	DC (W)
10	600	300	30

### Terminal Connections:

Contactor Series	Power Terminals				
	Terminal Type	Screw Type and Size	Max wire size Stranded	AWG [mm2] Solid	Max torque value lb-in [N-m]
GDP251S	Screw	Phillips, M5	14-12 [2.5~4]	14-10 [2.5~6]	20 [2.2]
GDP251L	Lug	Flat head, M8	14-12 [2.5~4]	14-10 [2.5~6]	
GDP252S, GDP32S, GDP40S	Screw	Phillips, M5	use ring of fork terminals only		
GDP252L, GDP32L, GDP40L	Lug	Flat head, M8	14-10 [2.5~6]	12-8 [4~10]	40 [4.5]
GDP503L, GDP603L		Flat head, M10	12 -8 [4~10]	10-6 [6~16]	
GDP753L, GDP903L		Flat head, M12	6-4 [ 16~25]	4-3 [25~35]	

All power terminals offer additional dual 1/4" fast-on terminals  
60/75C copper wire only

Contactor Series	Coil terminals			
	Terminal Type	Screw Type and Size	Max wire size AWG [mm2]	Max torque value Lb-in [N-m]
GDP251S	Dual 1/4" fast-on	N/A	N/A	N/A
GDP251L				
GDP252S, GDP32S, GDP40S				
GDP252L, GDP32L, GDP40L				
GDP503L, GDP603L	Dual 1/4" fast-on plus screw	Phillips, M4	16 - 14 [1~2.5]	10 [1.2]
GDP753, GDP903L				

Contactor Series	Auxiliary Contacts			
	Terminal Type	Screw Type and Size	Max wire size AWG [mm2]	Max torque value Lb-in [N-m]
GDP251S	Screw	Phillips, M4	16 - 14 [1~2.5]	10 [1.2]
GDP251L				

### Endurance Ratings

Rating Type	Product	Rating
Mechanical life of the contactor	All 1Pole and 2Pole	1 million cycles
	All 3Pole	500K cycles
UL508 electrical life of contacts (Resistive)	All 1Pole and 2Pole	250K cycles
	All 3 Pole ≥ 50A	
	All 3 Pole ≥ 40A	30K cycles

### Accessories

**GNCF8-11:** Snap-on auxiliary contact block for 3 pole contactors. 1NO/1NC, Ith= 10A, screw terminals