

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 |
|----------------|-----------------|-----------------|-----------------|----------------|
| GDP | 25: 25 Amps | 1: 1 Pole | S: With Shunt | L: Lug* |
| | 32: 32 Amps | 2: 2 Poles | Blank: No Shunt | S: Screw** |
| | 40: 40 Amps | 3: 3 Poles | | |
| | 50: 50 Amps | | | |
| | 60: 60 Amps | | | |
| | 75: 75 Amps | | | |
| | 90: 90 Amps | | | |

| Coil Voltage | Position of Coil Terminals (3-pole only) | Auxiliary Output |
|---|---|----------------------------|
| 24V: 24 VAC 120V: 110/120 VAC 220V: 220 VAC 277V: 277 VAC 480V: 480 VAC | Blank: bottom T: top | 01: 1 NC*** Blank: 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 | GDP251SS24V | GDP252S24V | GDP253S24V |
| | | 120 VAC | GDP251S120V01 | GDP251SS120V | GDP252S120V | GDP253S120V |
| | | 220 VAC | GDP251S220V01 | GDP251SS220V | GDP252S220V | GDP253S220V |
| | | 277 VAC | GDP251S277V01 | GDP251SS277V | GDP252S277V | GDP253S277V |
| | | 480 VAC | GDP251S480V01 | GDP251SS480V | GDP252S480V | GDP253S480V |
| | Lug | 24 VAC | GDP251L24V01 | GDP251SL24V | GDP252L24V | GDP253L24V |
| | | 120 VAC | GDP251L120V01 | GDP251SL120V | GDP252L120V | GDP253L120V |
| | | 220 VAC | GDP251L220V01 | GDP251SL220V | GDP252L220V | GDP253L220V |
| | | 277 VAC | GDP251L277V01 | GDP251SL277V | GDP252L277V | GDP253L277V |
| | | 480 VAC | GDP251L480V01 | GDP251SL480V | GDP252L480V | GDP253L480V |
| 32 Amps | Screw | 24 VAC | GDP321S24V01 | GDP321SS24V | GDP322S24V | GDP323S24V |
| | | 120 VAC | GDP321S120V01 | GDP321SS120V | GDP322S120V | GDP323S120V |
| | | 220 VAC | GDP321S220V01 | GDP321SS220V | GDP322S220V | GDP323S220V |
| | | 277 VAC | GDP321S277V01 | GDP321SS277V | GDP322S277V | GDP323S277V |
| | | 480 VAC | GDP321S480V01 | GDP321SS480V | GDP322S480V | GDP323S480V |
| | Lug | 24 VAC | GDP321L24V01 | GDP321SL24V | GDP322L24V | GDP323L24V |
| | | 120 VAC | GDP321L120V01 | GDP321SL120V | GDP322L120V | GDP323L120V |
| | | 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 | GDP402S24V | GDP403S24V |
| | | 120 VAC | GDP401S120V01 | GDP401SS120V | GDP402S120V | GDP403S120V |
| | | 220 VAC | GDP401S220V01 | GDP401SS220V | GDP402S220V | GDP403S220V |
| | | 277 VAC | GDP401S277V01 | GDP401SS277V | GDP402S277V | GDP403S277V |
| | | 480 VAC | GDP401S480V01 | GDP401SS480V | GDP402S480V | GDP403S480V |
| | Lug | 24 VAC | GDP401L24V01 | GDP401SL24V | GDP402L24V | GDP403L24V |
| | | 120 VAC | GDP401L120V01 | GDP401SL120V | GDP402L120V | GDP403L120V |
| | | 220 VAC | GDP401L220V01 | GDP401SL220V | GDP402L220V | GDP403L220V |
| | | 277 VAC | GDP401L277V01 | GDP401SL277V | GDP402L277V | GDP403L277V |
| | | 480 VAC | GDP401L480V01 | GDP401SL480V | GDP402L480V | GDP403L480V |
| 50 Amps | Lug | 24 VAC | | | | GDP503L24V |
| | | 120 VAC | | | | GDP503L120V |
| | | 220 VAC | | | | GDP503L220V |
| | | 277 VAC | | | | GDP503L277V |
| | | 480 VAC | | | | GDP503L480V |
| 60 Amps | Lug | 24 VAC | | | | GDP603L24V |
| | | 120 VAC | | | | GDP603L120V |
| | | 220 VAC | | | | GDP603L220V |
| | | 277 VAC | | | | GDP603L277V |
| | | 480 VAC | | | | GDP603L480V |
| 75 Amps | Lug | 24 VAC | | | | GDP753L24V |
| | | 120 VAC | | | | GDP753L120V |
| | | 220 VAC | | | | GDP753L220V |
| | | 277 VAC | | | | GDP753L277V |
| | | 480 VAC | | | | GDP753L480V |
| 90 Amps | Lug | 24 VAC | | | | GDP903L24V |
| | | 120 VAC | | | | GDP903L120V |
| | | 220 VAC | | | | GDP903L220V |
| | | 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 ~ 40°C (+23 ~ 104°F) - full current rating.
 41 ~ 50°C (106 ~ 122°F) - 0.875 de-rating factor
 51 ~ 60°C (124 ~ 140°F) - 0.750 de-rating factor
 61 ~ 70°C (142 ~ 158°F) - 0.625 de-rating factor
- Storage Temperature: -25 - +55°C (-13 ~ 131°F)
- Relative Humidity: less than 50% @40°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 [mm ²] 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 [mm ²] | 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 [mm ²] | 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