

# POWR-GARD® PGR-6800 SERIES

- PUMP PROTECTION RELAY
- RELÉ DE PROTECCIÓN DE BOMBAS
- RELAIS POUR LA PROTECTION DES POMPES

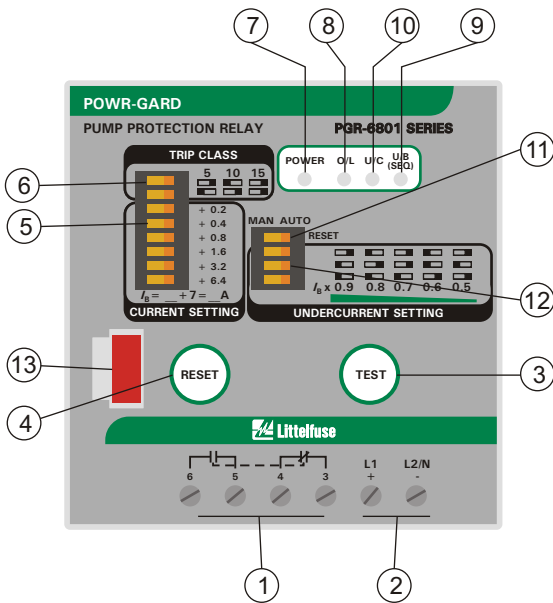


Expertise Applied | Answers Delivered

PGR-6801 — 7-19.6 A full load current

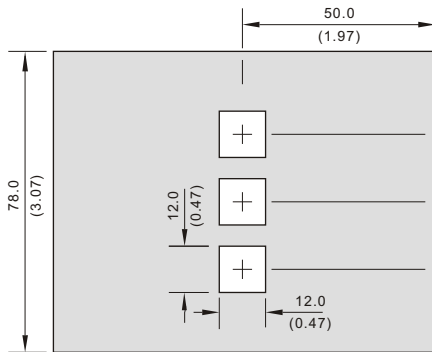
PGR-6802 — 19-44.2 A full load current

PGR-6803 — 40-90.4 A full load current

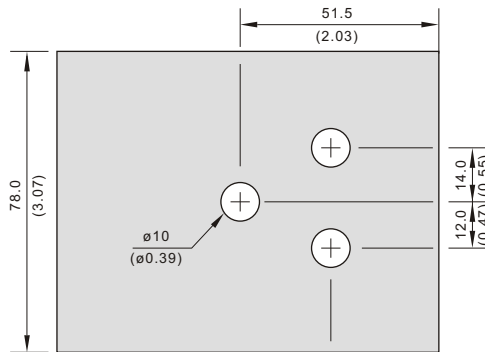


1	Output contacts	Contactos de salida	Contacts de sortie
2	Auxiliary supply	Alimentación auxiliar	Tension d'alimentation
3	Test pushbutton	Botón de prueba	Bouton test
4	Reset pushbutton	Botón de rearme	Bouton de réarmement
5	Trip current setting $I_b$	Ajuste de intensidad $I_b$	Réglage de l'intensité $I_b$
6	Trip class setting	Ajuste clase de disparo	Réglage de classe de déclenchement
7	Green LED: Power On	LED verde: Relé alimentado	LED verte: Position marche
8	Red LED: Overload trip	LED rojo: Disparo por sobrecarga	LED rouge: Déclenchement par surcharge
9	Red LED: Phase unbalance, phase loss, phase sequence trip	LED rojo: Disparo por desequilibrio, falta de fase o inversión de fases	LED rouge: Déclenchement par asymétrie, manque de phase ou inversion de phases
10	Red LED: Undercurrent trip	LED rojo: Disparo por subintensidad	LED rouge: Déclenchement par sous-intensité
11	Manual or automatic reset	Rearme manual o automático	Réarmement manuel ou automatique
12	Undercurrent setting	Ajuste de subintensidad	Réglage de la sous-intensité
13	Connector for - PGB-6800	Conector para - PGB-6800	Connection pour - PGB-6800
14	Remote indication and reset - PGB-6800	Visualizador exterior - PGB-6800	Visualisation extérieur - PGB-6800

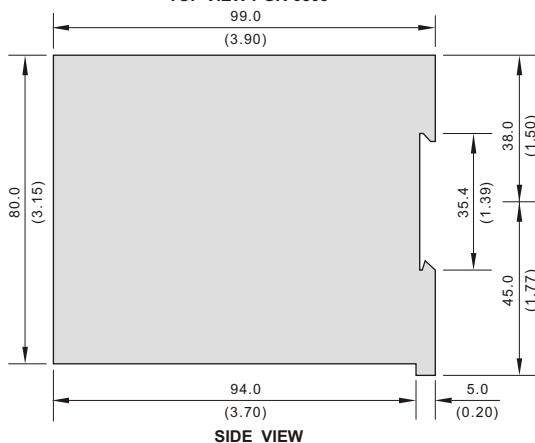
## • DIMENSIONS



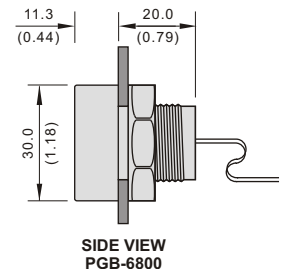
TOP VIEW PGR-6802  
TOP VIEW PGR-6803



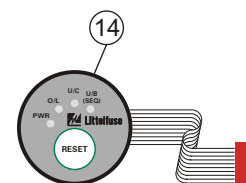
TOP VIEW PGR-6801



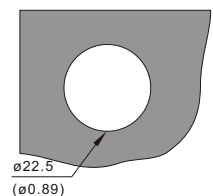
SIDE VIEW



SIDE VIEW  
PGB-6800



FRONT VIEW  
PGB-6800



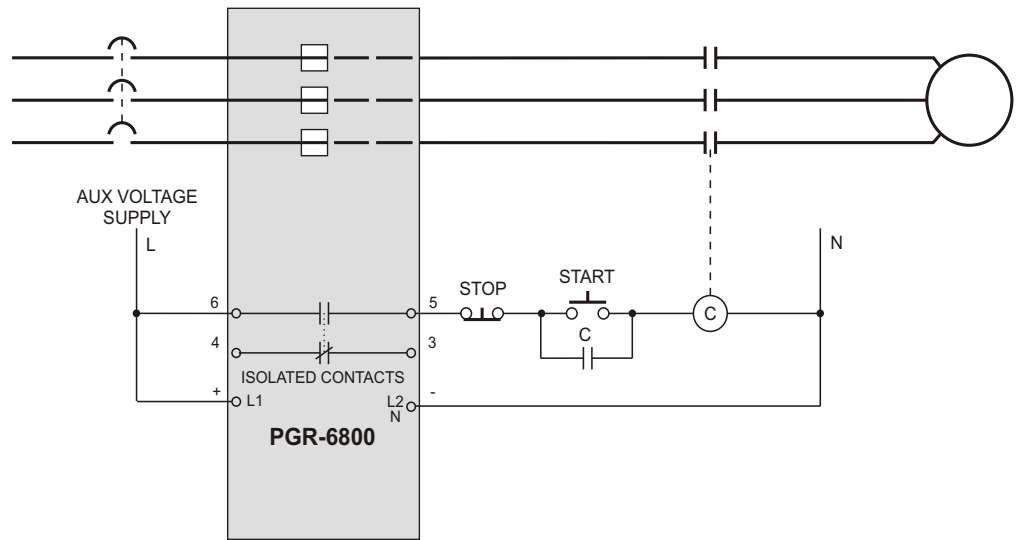
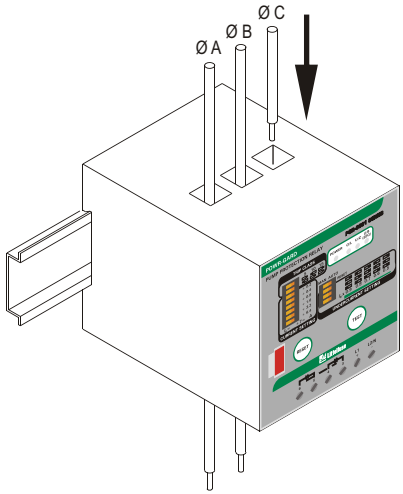
CUTOUT  
PGB-6800

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Expertise Applied | Answers Delivered



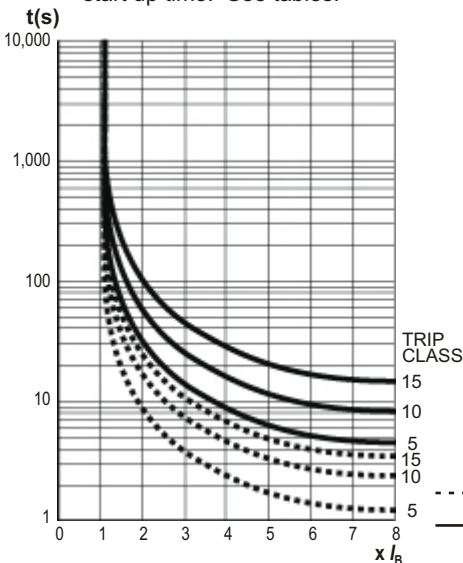
- **ATTENTION:** To prevent electrical shock, disconnect the power source before installing or servicing.
- Check that the auxiliary voltage supply is correct.
- The relay or current transformers must be installed between the fuses or circuit breaker and the contactor.
- Do not use automatic reset mode in applications where an automatic motor start can cause injury to persons or damage to equipment.
- Starting time must be greater than 0.2 seconds to detect incorrect phase sequence.

- **ATENCIÓN:** Para evitar descargas eléctricas durante la instalación o manipulación del relé, asegúrese de que no hay tensión en la línea.
- Comprobar que la tensión auxiliar de alimentación es la correcta.
- Instalar el relé o los transformadores de intensidad entre los fusibles o automático y el contactor de línea.
- No usar el modo de reset automático donde el rearranque repentino del motor pueda causar daños a las personas o al equipo protegido.
- Para la detección de la secuencia de fases incorrecta el tiempo de arranque del motor ha de ser superior a 0.2 segundos.

- **ATTENTION:** Avant le montage et la mise en service, couper l'alimentation secteur pour éviter toute décharge.
- Vérifier que la tension auxiliaire d'alimentation est correcte.
- Installer les relais ou les transformateurs d'intensité entre les fusibles et le contacteur de ligne.
- N'utiliser pas le mode réarmement automatique dans les applications où un redémarrage automatique inattendu du moteur pourrait provoquer des blessures personnelles ou des dégâts matériels.
- La détection du inversion de phases ne se fera que si le temps du moteur est supérieur à 0.2 s.

## • TRIP CLASS SETTING

Adjust the TRIP CLASS according to the motor start up time. See tables.



## • AJUSTE DE CLASE DE DISPARO

Ajustar el TRIP CLASS del relé en función del tiempo de arranque del motor. Ver tablas.

DIRECT START TIME (s)	TRIP CLASS		
	PGR-6801	PGR-6802	PGR-6803
1	5	5	5
2	10	10	10
3	10	10	10
4	15	15	15
5	15	15	15

## • RÉGLAGE DE CLASSE DE DÉCLENCHEMENT

Ajuster le TRIP CLASS du relais en fonction du temps de démarrage du moteur. Voir tables.

Y - Δ START TIME (s)	TRIP CLASS		
	PGR-6801	PGR-6802	PGR-6803
5	5	5	5
10	10	10	10
15	10	10	10
20	15	15	15
25	15	15	15

# POWR-GARD® PGR-6800 SERIES

- PUMP PROTECTION RELAY
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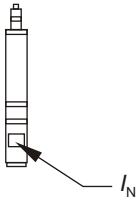


Expertise Applied | Answers Delivered

## • CURRENT SETTING $I_B$

## • AJUSTE DE INTENSIDAD $I_B$

## • RÉGLAGE DE L'INTENSITÉ $I_B$



+	0.2
+	0.4
+	0.8
+	1.6
+	3.2
+	6.4
$I_B =$	$+ 7 =$ A

CURRENT SETTING

$$I_N = 15 \text{ A}$$

$$I_B = (1.6 + 6.4) + 7$$

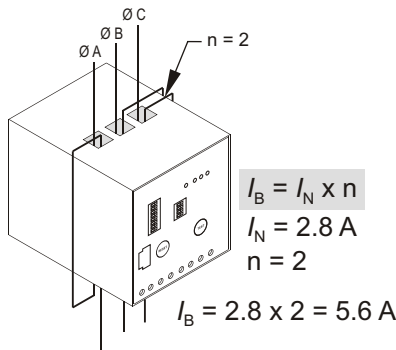
$$I_B = 8 + 7 = 15 \text{ A}$$

The overload pickup value is  $1.1 \times I_B$  for a 1.0 to 1.15 service factor motor. If applicable, adjust  $I_B$  to set the pickup value based on the motor service factor.

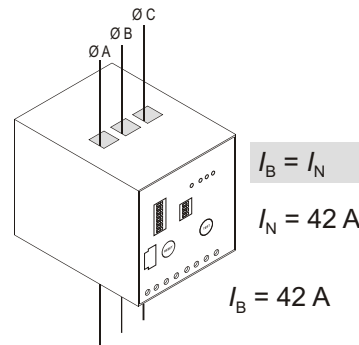
kW		1.1	1.5	2.2	3	3.7	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	
HP		1.5	2	3	4	5	5.5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	180	
$I_N$ (A) Average Values	MOTOR 4 P	400 V 50 Hz	2.5	3.5	5	6.5		8.5	11	15	22	29	35	42	57	69	81	100	131	162	195	233
		440/460 V 60 Hz	2.2	3	4.3	5.5		7.5	10	13	19	25	31	37	49	61	73	90	116	144	173	210
	MOTOR 2 P	400 V 50 Hz	2.8	3.8	5.5	7		9.5	13	17	24	32	40	47	64	79	92	113	149	183	220	254
		440/460 V 60 Hz	2.5	3.4	4.8	6	7.5		11	15	21	27	33	39	53	65	79	95	120	153	183	218

Up to 2000 A

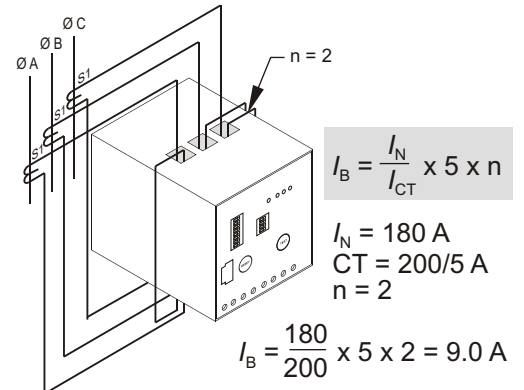
For full-load motor currents ( $I_N$ ) up to 7 A use PGR-6801



Motor Currents ( $I_N$ )	Model Number
7 to 19.6 A	PGR-6801
19 to 44.2 A	PGR-6802
40 to 90.4 A	PGR-6803



For full-load motor currents ( $I_N$ ) from 91 to 2000 A use a PGR-6801 with three external 5-A-secondary CT's and wraps (n) as required. ( $n \geq 2$ )

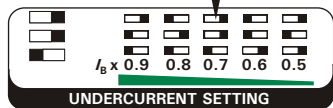
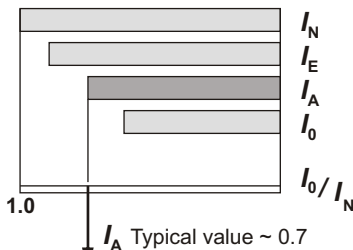


## • UNDERCURRENT SETTING

## • AJUSTE DE SUBINTENSIDAD

## • RÉGLAGE DE LA SOUS-INTENSITÉ

$$I_0 < I_A < I_E$$



$I_0$

- No load
- Sin carga
- Sans charge

$I_E$

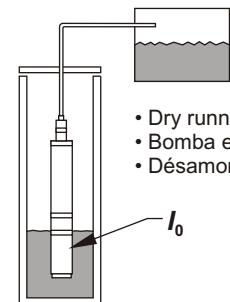
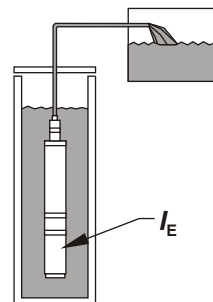
- Minimum expected load
- Carga minima prevista
- Charge minimale prévue

$I_A$

- $I$  set
- $I$  ajustada
- $I$  ajustée

$I_N$

- Full load
- Plena carga
- Charge nominale



- Dry running
- Bomba en vacío
- Désamorçage


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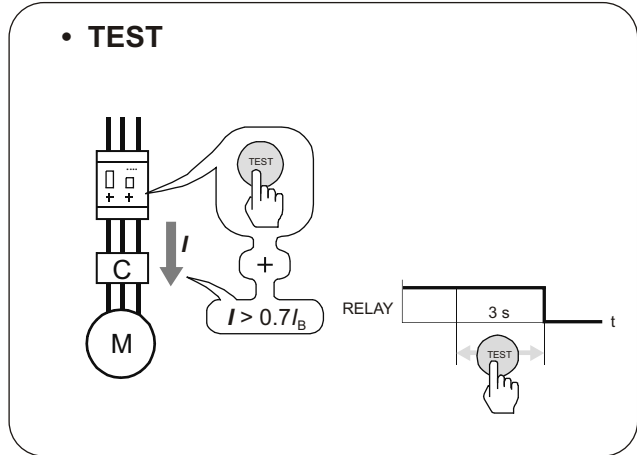
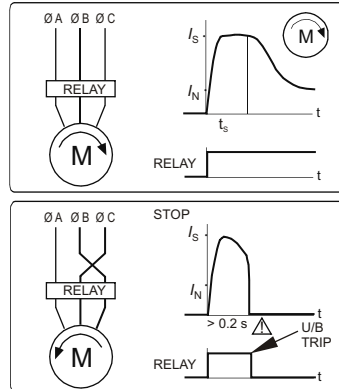
- PUMP PROTECTION RELAY
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Expertise Applied | Answers Delivered

- PHASE SEQUENCE
- INVERSIÓN DE FASES
- INVERSION DE PHASES

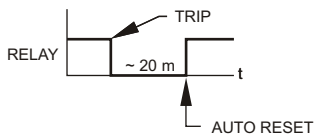
Requirement   
 $I_s \geq 3 \times I_N$   
 $t_s \geq 0.2 \text{ s}$



## • RESET

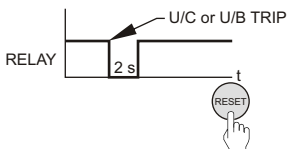
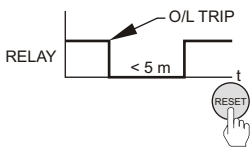
### • Automatic

MAN AUTO  
 RESET



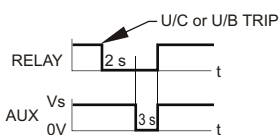
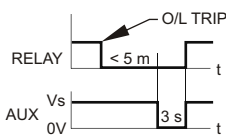
### • Manual



MAN AUTO  
 RESET



### • Remote • Remoto • A distance

MAN AUTO  
 RESET



TECHNICAL DATA	DATOS TÉCNICOS	DONNÉES TECHNIQUE	 US LISTED IND. CONT. EQ. 6 R 73	
Overload protection	Protección de sobrecarga	Protection de surcharge	$> 1.1 \times I_B$	O/L
Undercurrent protection/ Dry running	Protección de subintensidad/ Bomba en vacío	Protection sous-intensité/ Désamorçage	$0.5 I_B - 0.9 I_B$ $t = 3 \text{ s}$	U/C
Phase unbalance	Desequilibrio de fases	Asymétrie de phase	$> 40\%$	U/B
Phase loss	Falta de fase	Manque de phase	$t < 3 \text{ s } (0.7 I_B)$ $t < 1.5 \text{ s } (2.5 I_B)$ $t < 1.5 \text{ s } (6 I_B) \quad I > 0.7 I_B$	U/B
Phase sequence	Inversión de fases	Inversion de phases	✓	(SEQ)
Motor thermal image	Imagen térmica del motor	Image thermique du moteur	✓	
Maximum motor voltage	Max.tensión del motor	Tension max. du moteur	1,000 Vac	
Motor line frequency range	Rango de frecuencia de la línea del motor	Range de fréquence de la ligne de moteur	50/60 Hz	
Terminal section	Sección para embornar máxima	Section max. raccordement	2.5 mm <sup>2</sup> (22-12 AWG)	
Screw torque	Par max. de apriete	Couple max. de serrage	0.2 N-m (1.8 in.lb)	
Power consumption	Consumo	Puissance consommée	2.5 VA	
Electrical life	Vida eléctrica	Vie électrique	$5 \times 10^5$ Operations	
Mechanical life	Vida mecánica	Vie mécanique	$10^6$ Operations	
Storage temperature	Temperatura de almacenaje	Temperature de stockage	$-30^\circ\text{C} + 70^\circ\text{C}$	
Operational temperature/ Maximum altitude	Temperatura de utilización/ Altitud máxima	Temperature d'operation/ Altitude maximum	$-15^\circ\text{C} + 60^\circ\text{C} / 1,000 \text{ m } (3,281')$ $-15^\circ\text{C} + 50^\circ\text{C} / 2,000 \text{ m } (6,562')$ $-15^\circ\text{C} + 40^\circ\text{C} / 3,000 \text{ m } (9,843')$	
Output contacts	Contactos de salida	Contact de sortie	C300 - 125-250 V AC15 - 250 V, 3 A	
Standards	Normas	Normes	IEC-255, IEC-947, Marked CE IEC-801, EN 50081-2	
Weight	Peso	Poids	0.5 kg (1.1 lb)	