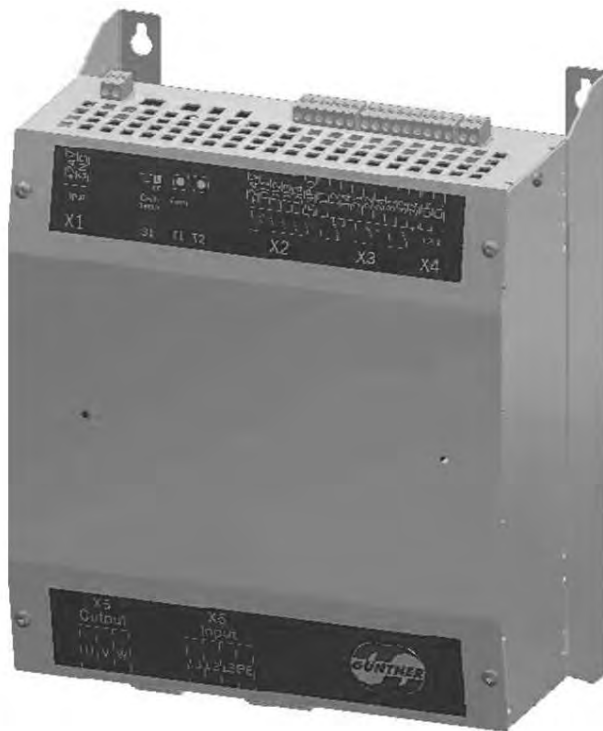


# Data sheet GPHC 240.1

## Power unit for speed control of three-phase motors

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ERP no.: 5205497

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# 1 GPHC 240.1

## 1.1 Functional description

The Güntner Phasecut 240.1 is a microprocessor-controlled power unit designed to regulate the speed of three-phase motors in accordance with the phase-cutting principle. The output voltage of the power unit can be adjusted variably from 0 to 100 percent of the mains voltage.

A GRCP.1 control unit is required for operation. A GRCP.1 can incorporate and operate a number of GPHC 240.1 units.

The output voltage can be regulated variably between 0 and 100 percent. No minimum load is required owing to the controller implementation.

### 1.1.1 LEDs

Device status	Green LED Power	Yellow LED Ready	Red LED Err/Warn
Device switched off, no 24 Volt supply voltage	OFF	OFF	OFF
24 Volt supply voltage present	ON	OFF	OFF
Operational, ENPO is set	ON	ON	OFF
In operation (mains voltage present, rotary field OK)	ON	Flashing	OFF
Rotary field not OK	ON	OFF	ON
Warning/Error	ON	OFF	Flashing (see flash code in operating manual)

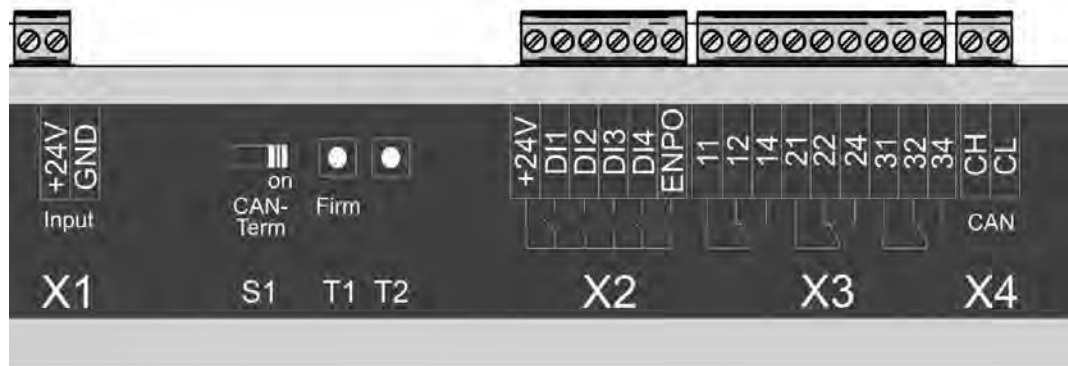
The LEDs are located on the PCB and can be viewed through a viewing window in the upper left area.

## 1.2 Configuration table

GPHC 240.1	Phase-cutting power unit, max. 24 A nominal motor current, 1 output, IP 20, variant 1
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## 1.3 Connections

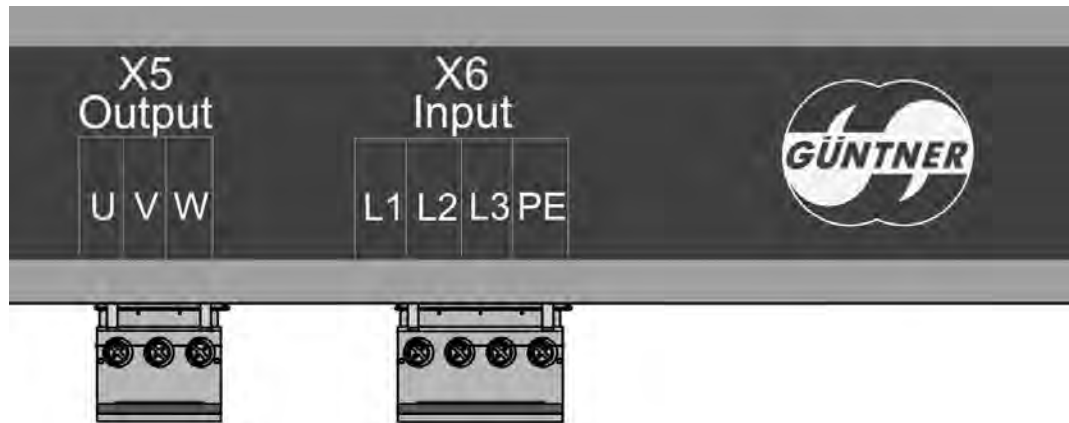
### Connections GPHC 240.1



### Connections GPHC 240.1

Upper row of connections			
	Name	Description	
<b>X1</b>	+24V	Supply voltage for control unit	
	GND	Ground for control unit	
<b>S1</b>	CAN	DIP switch for CAN termination 120 Ohm	
<b>T1</b>	Firm	Button for service engineer	
<b>T2</b>		Not used	
<b>X2</b>	+24V	Control voltage for potential-free dialogue inputs	
	DI1	Digital input 1, free	
	DI2	Digital input 2, thermal monitoring (TK) +24 Volt = Fans OK 0 Volt or open = Thermocontact has triggered	
	DI3	Digital input 3, circuit breaker OK +24 Volt = Protective circuit OK 0 Volt or open = Circuit breaker has triggered	
	DI4	Digital input 4, free	
	ENPO	Enable Power, enables activation of the power unit, + 24 Volt = Enable output stage 0 Volt or open = Lock output stage	
<b>X3</b>	11		OUT 1: Phase-cutting operation = Closer 11/14 closed
	12		
	14		
	21		OUT 2: Reset thermal monitoring = Closer 21/24 closed
	22		
	24		

Upper row of connections			
	31		OUT 3: Threshold value exceeded = Closer 31/34 closed
	32		
	34		
<b>X4</b>	CH	CAN Bus High	
	CI	CAN Bus Low	



Lower row of connections		
	Name	Description
X5	U	Motor output phase
	V	Motor output phase
	W	Motor output phase
X6	L1	Supply phase
	L2	Supply phase
	L3	Supply phase
	PE	Earth conductor

**Connection properties on power side GPHC 240.1**

Device port	Min	Type	Max	Unit
Recommended mains fuse	*	*	32	A (gL/gG)
Supply line X6 single-wire			10	mm <sup>2</sup>
Supply line X6 finely stranded with end sleeves			6	mm <sup>2</sup>
Motor output X5 single-wire			10	mm <sup>2</sup>
Motor output X5 finely stranded with end sleeves			6	mm <sup>2</sup>

\* A smaller fuse may be possible if the connected motor load is below the maximum rated current. This must be checked in each case.

## 1.4 Electrical properties of

	Min	Type	Max	Unit
<b>Control unit</b>				
Voltage supply	22	24	27	V
Current consumption		300	500	mA
<b>Digital inputs</b>				
High level	15	24	30	V
Low level	-3	0	5	V
<b>Relay outputs</b>				
Voltage DC		24	30	V
Voltage AC			250	V
Current resistive load 24V DC/250V AC			1	A
Current inductive load 24V DC/250V AC			1	A
Switch cycles, mechanical	1*10 <sup>6</sup>			Switching cycles
Switch cycles, electrical	1*10 <sup>5</sup>			Switching cycles
<b>CAN bus</b>				
Dielectric strength	-24		24	V
Transmission rate		125		kbit/s
Galvanic separation	No			
<b>Power unit</b>				

Electrical properties of GPHC 240.1



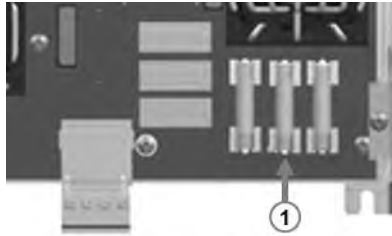
	Min	Type	Max	Unit
Voltage supply AC	380	400	480	V AC
Mains frequency		50/60		Hz
Voltage of motor outputs	0		Mains voltage	V AC
Rated current (sum total of all connected motor currents)			24 <sup>1</sup>	A
Power loss		100	130	W

#### Electrical properties of GPHC 240.1

1) The peak power during an acceleration ramp from 0 to 100% can be 30% above the maximum rated current. The acceleration ramp has to be extended if the values are above this until this factor is fulfilled.

## 1.5 Fuses

The GPHC 240.1 has a fuse group in the input. The steps involved in replacing the fuses are described in the operating manual. Fuses may only be replaced when the device is disconnected from the mains. The fuses are used for protecting the device. They do not replace the necessary line protection for the supply line.



1) 3x capped fuse 30A/600V, gRL  
ERP no. 5205144

The following fuse types are used:

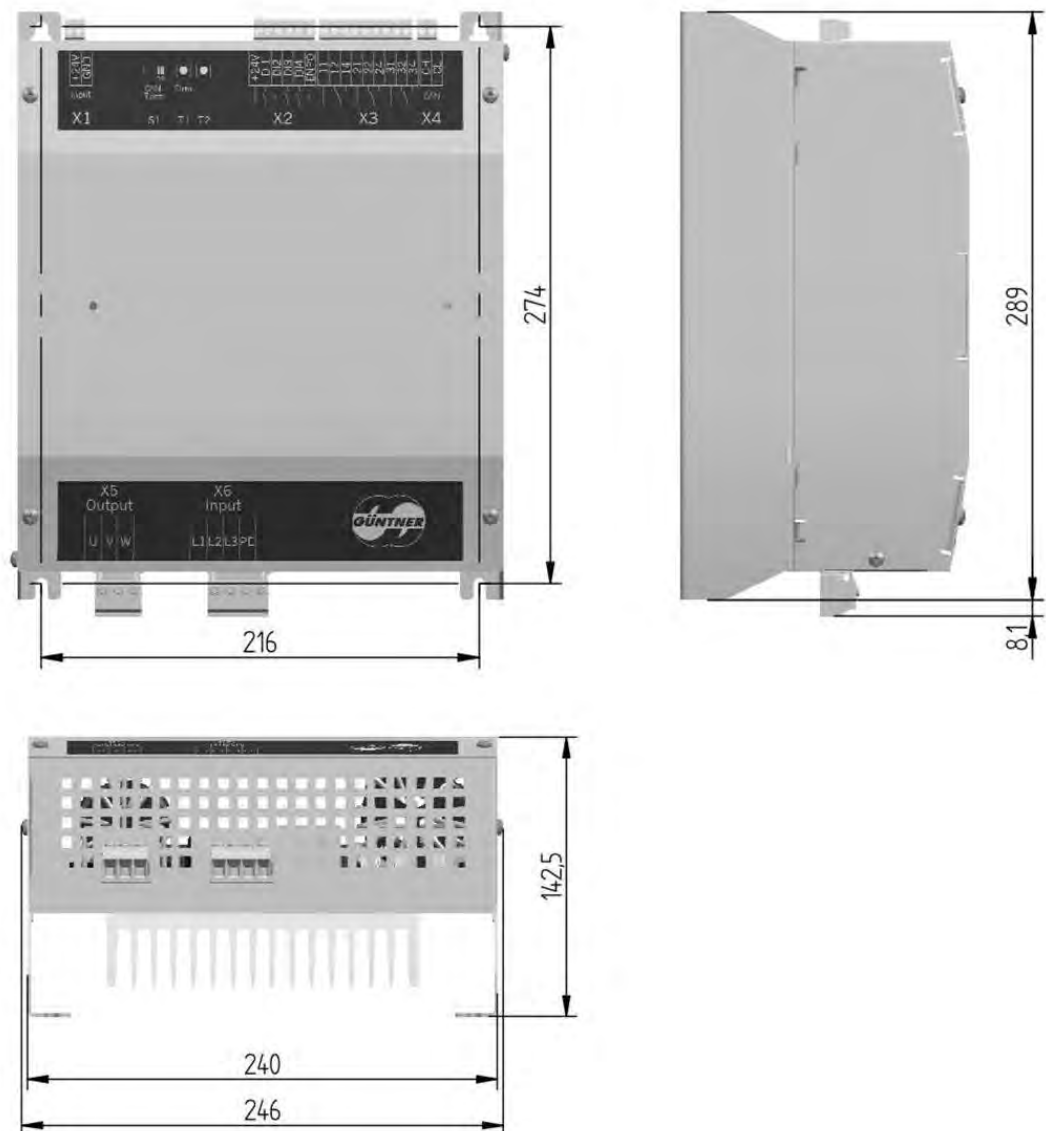
Type	Güntner Order No.	Reference Manufacturer	Reference Order No.
30A, gRL, 10x38mm	5205144	SIBA	6003434.30

## 1.6 Installation / Operating conditions

- The device is designed for installation in the switch cabinet.
- All measurement and signal lines must be connected via shielded cables.
- The shielding of measurement, signal and bus lines must be earthed at one end only.
- Suitable shielding and routing measures must be taken to ensure that mains cables and motor cables do not cause any interference in signal and control lines.
- Ambient temperature: -20°C ... +55°C
- Storage temperature: -20°C ... +55°C, dry
- Protection rating: IP 20 if the housing is closed, IP 00 if the housing is open

## 1.7 Dimensions / Weight

You will find the casing dimensions below. All dimensions are given in millimetres.



Dimensions GPHC 240.1

**Weight:**

approx. 4.2 kg