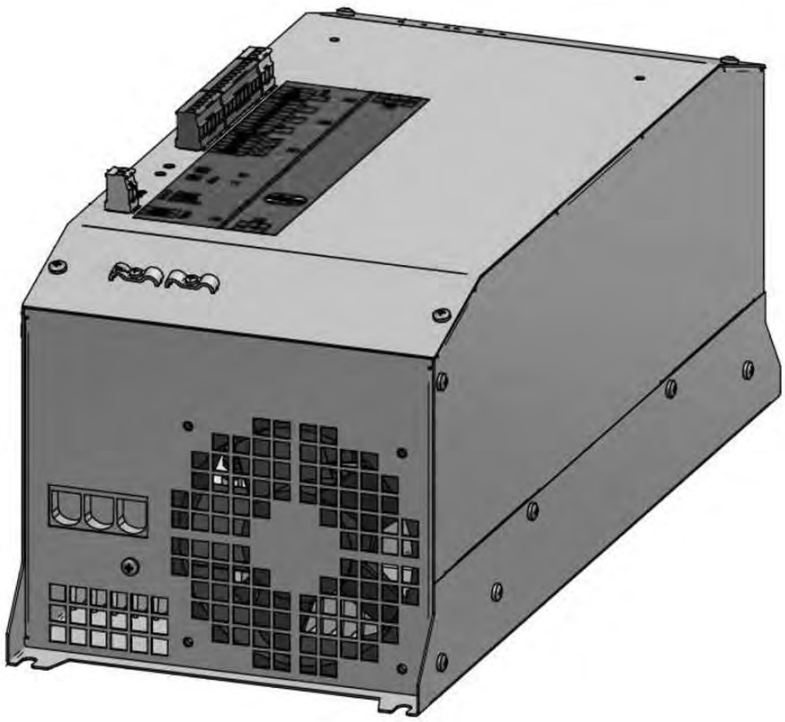
Data sheet GPHC 380.1



ERP no.: 5205687

www.guentner.de

Contents

1 GPHC 380.1

1.1 Functional description

The Güntner Phasecut 380.1 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 380.1 units.
No minimum load is required owing to the controller implementation.

1.1.1 LEDs

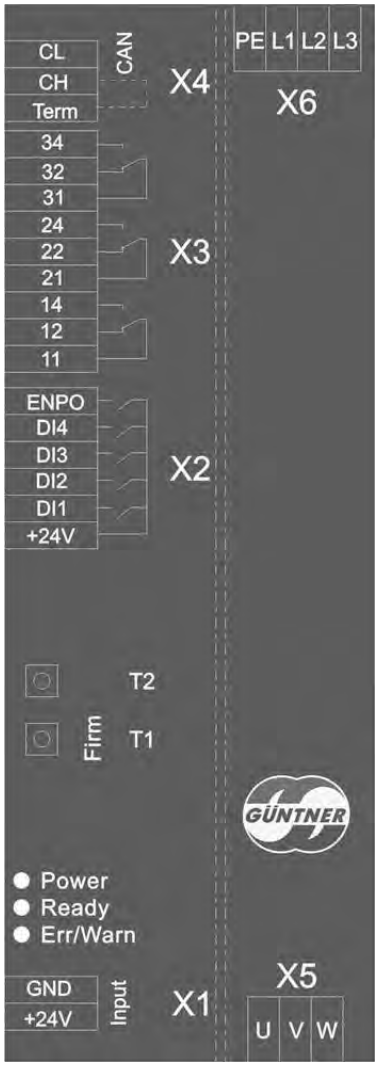
Device status	Green LED Power	Yellow LED Ready	Red LED Err/Warn
Device switched off, no 24 Volt supply voltage	OFF	OFF	OFF
24 Volt supply voltage present	ON	OFF	OFF
Operational, ENPO is set	ON	ON	OFF
In operation (mains voltage present, rotary field OK)	ON	Flashing	OFF
Rotary field not OK	ON	OFF	ON
Warning/Error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

1.2 Configuration table

GPHC 380.1	Phase-cutting power unit, max. 38 A nominal motor current, 1 output, IP 20, variant 1

1.3 Connections

Connections GPHC 380.1



Connections GPHC 380.1

Connections on side parts		
	Name	**Description**
X5	U	Motor output phase
	V	Motor output phase
	W	Motor output phase
X6	PE	Earth conductor
	L1	Supply phase
	L2	Supply phase
	L3	Supply phase

Connections on housing cover		
	Name	**Description**
X1	+24V	Supply voltage for control unit
	GND	Ground for control unit
T1	Firm	Button for service engineer
T2		Not used
X2	+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
X3	11 12 14	 OUT 1: Phase-cutting operation = Closer 11/14 closed
	21 22 24	 OUT 2: Reset thermal monitoring = Closer 21/24 closed
	31 32 34	 OUT 3: Threshold value exceeded = Closer 31/34 closed
X4	Term	CAN termination 120 Ohm, if this contact is connected with CH.
	CH	CAN Bus High
	CL	CAN Bus Low

Connection properties on power side GPHC 380.1				
Device port	**Min**	**Type**	**Max**	**Unit**
Recommended mains fuse	*	*	50	A (gL/gG)
Supply line X6 phase single-wire			35	mm^2
Supply line X6 phase finely stranded with end sleeves			25	mm^2
Supply line X6 PE single-wire			50	mm^2
Supply line X6 PE finely stranded with end sleeves			50	mm^2
Motor output X5 single-wire			50	mm^2
Motor output X5 finely stranded with end sleeves			50	mm^2

* 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
Control unit				
Voltage supply	22	24	27	V
Current consumption		300	500	mA
Digital inputs				
High level	15	24	30	V
Low level	-3	0	5	V
Relay outputs				
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	$1*10^6$			Switching cycles
Switch cycles, electrical	$1*10^5$			Switching cycles
CAN bus				
Dielectric strength	-24		24	V
Transmission rate		125		kbit/s

Electrical properties of GPHC 380.1

	Min	Type	Max	Unit
Galvanic separation		No		
Power 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)			38[1]	A
Power loss		200	240	W

Electrical properties of GPHC 380.1

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 380.1 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.

The following fuse types are used:

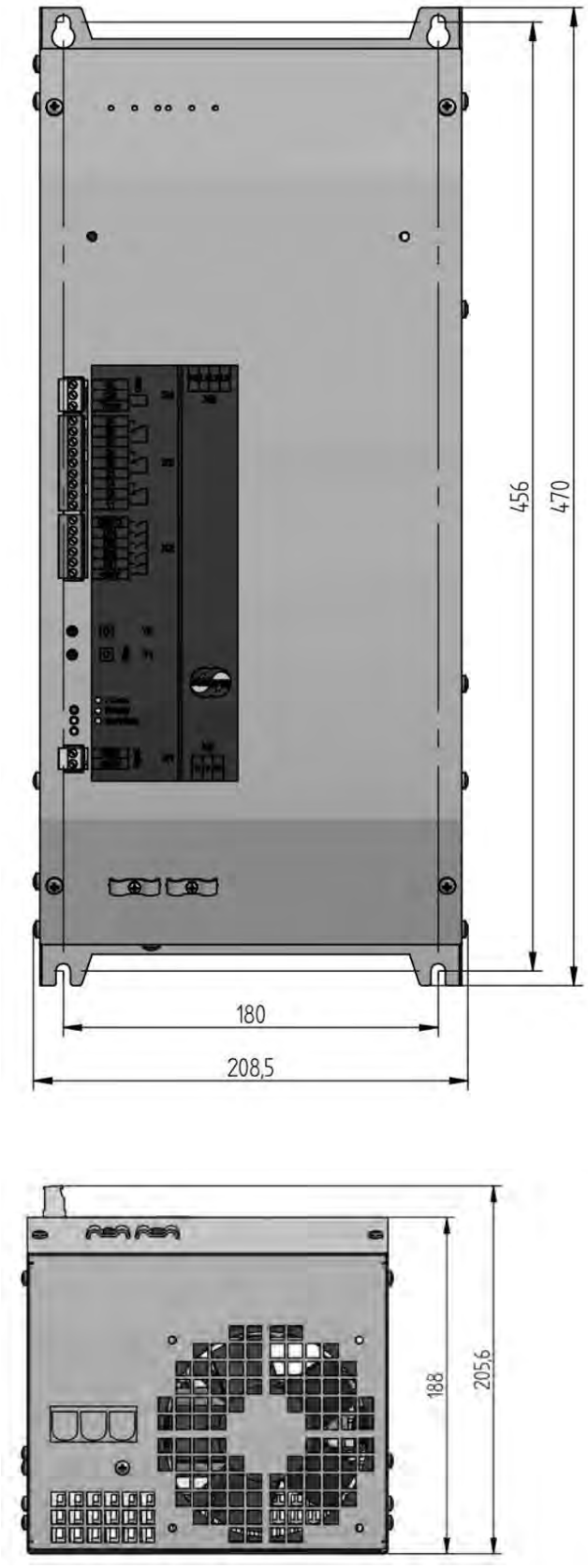
Type	Güntner Order No.	Reference Manufacturer	Reference Order No.
50A, gRL, 14x51mm	5203121	SIBA	5012406.50

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 380.1

Weight:
approx. 11 kg