

## Preliminary Datasheet

# GvA Power Supply System (GPSS)

## GPSS 118-24 CD

- High isolated power supply
- Input voltage range: 22.8 – 25.2 V<sub>DC</sub>
- Output voltage: 5V-35V<sub>DC</sub> (adjustable)
- Continuous output power: 30W (U<sub>out\_min</sub>.:20V)
- Isolation voltage: 30kV<sub>rms</sub>



### General information:

Power supply system for applications at different electrical potentials.

### Applications:

Auxiliary power supply for low voltage devices in high voltage environment, eg. drivers for semiconductors such as IGCT or IGBT, sensors and actors.



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**1 Electrical Characteristics**

System		Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Nominal input voltage	$V_{cc}$	22.8	24	25.2	$V_{DC}$
Output voltage	Regulated DC output voltage	$V_{out}$	5		35	$V_{DC}$
Continuous output power	Continuous output power	$P_{out}$	7.5		30	W
Output Current			1.45	1.75	2.1	A
Input current	$V_{cc} = 24 V_{DC} / P_{out} = 30W$	$I_{cc}$		1.8	tbd	A

Efficiency		Symbol	Min.	Typ.	Max.	Unit
Efficiency during nominal power		$\eta$	70	tbd	tbd	%

## 2 Insulation and Failure Behavior

Insulation				Unit
Partial discharge (type test) <10pC/60s	Input to output (extinction)	min. 18 <sup>1) 2)</sup>		kV <sub>rms</sub> / 50Hz
Insulation voltage (type test) 50Hz/60s	Input to output	min. 30 <sup>1)</sup>		kV <sub>rms</sub> / 50Hz
Impulse test (type test) 1,2µs/50µs	Input to output	tbd <sup>2)</sup>		kV
Distances		Creepage Distance	Clearance Distance	
	Output to input	126	93	mm
	With plug connector	142	83	mm
Material class		III, CTI>=tbd		

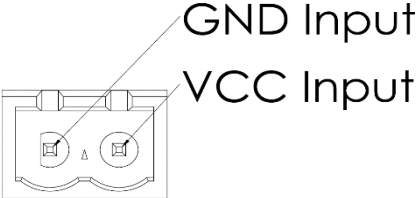
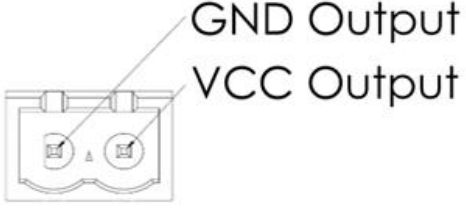
1) Test according to standard IEC 60270

2) All Values are measured under Pollution Degree 2


Failure Behavior	
Over temperature (>170°C Chip secondary side)	Shutdown of the output channel
Output Over Current and Short Circuit	Reduction of the output current
False input voltage range	Shutdown of the output channel

### 3 Climatic Condition and Connector Interface

Climatic Condition	Symbol	Min.	Typ.	Max.	Unit
Operation range (target)	$T_{Device}$	0		+60	°C
Transportation / Storage Temperature	$T_{Storage}$	-40		+60	°C
Humidity (target)	$T_{Humidity}$	<95			%

Connector Interface		Pin	Signal
Input connector female	Phoenix Contact 2 Pole Type: MSTBA 2,5 / 2-G-5,08 (1757242)	1	DC input 0V
		2	DC input 24V
Input connector male (customer side)		Phoenix Contact 2 Pole- Type: MSTB 2,5 / 2-ST-5,08 - (1757019)	
Output connector female	Phoenix Contact 2 Pole Type: MSTBVA 2,5/2-G-5,08 (1755736)	1	DC output $V_{GND}$
		2	DC output $V_{CC}$
Output connector male (customer side)		Phoenix Contact 2 Pole- MSTB 2,5/ 2-ST-5,08- (1757019)	
 <p><b>Figure 1: Input connector</b></p>		 <p><b>Figure 2: Output connector</b></p>	

**4 Dimensions and Weight**

Dimensions			Length	Width	Height	Unit
1 Channel System		<b>LxWxH</b>	60	60	85	mm

Weight	Symbol	Min.	Typ.	Max.	Unit
Weight	m		270		g

5 Mechanical Drawings  
All dimensions in [mm]

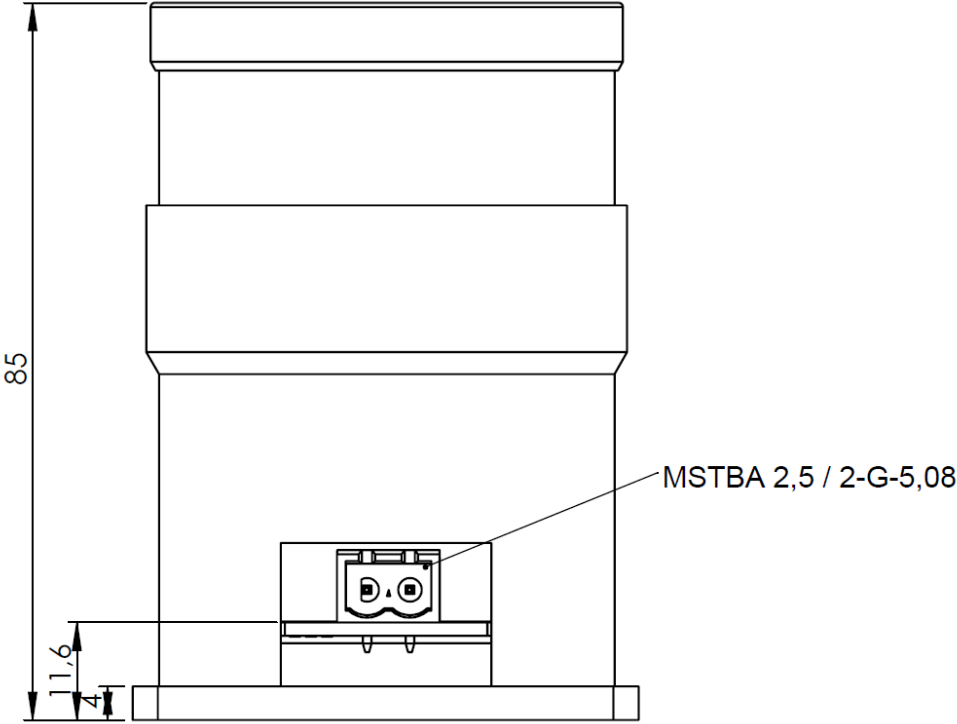


Figure 3: Mechanical drawing GPSS 118 – 24 CD

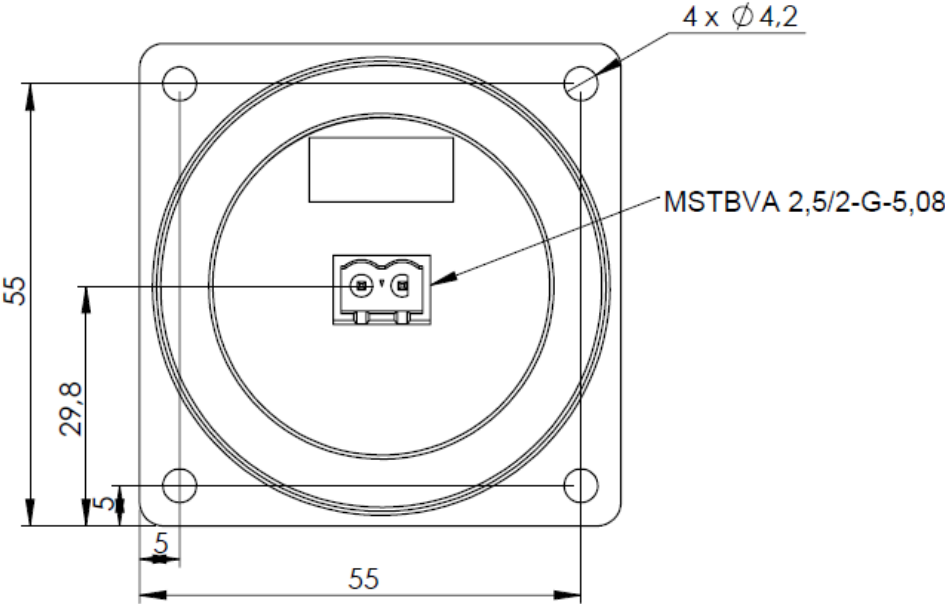


Figure 4: Mechanical drawing GPSS 118 – 24 CD

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## **6 Application and Implementation**

Note: Each application in which the GPSS is used must be verified for functionality by the customer. GvA does not warrant its accuracy or completeness. GvA's customer are responsible for determining suitability of components for their purpose. Customers should validate and test their design implementation to confirm system functionality.



**7 Document History**

<b>Document Name</b>	<b>Index</b>	<b>Date</b>	<b>Creator</b>
DS_P19055	00	25.01.2020	Bergold
DS_P19055	01	31.03.2020	Bergold

GvA Leistungselektronik GmbH reserves the right to adapt or amend the content of this technical information at any time and without prior notification.

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