

# Charger Industrial

48Volt – 110Volt - 125Volt / 50A - 100Amper Charger



[www.germarel.de](http://www.germarel.de)  
[sales@germarel.de](mailto:sales@germarel.de)



**Input: 400V 50Hz or 230V 50Hz or 208Volt 60Hz**

**Output: NiCd Charger 110Volt / 50A Charger - 50A Discharger**

- Full Automatic Charger & High Frequency PWM Newest Technology
- Thyristor Technology or IGBT Technology 1 Millisecond R. Time
- Micro Chip Controlled, Fast and Precisely, Efficient
- Perfect DC Supply for the Batteries
- 2 Years Warranty & 10 Years Spare Part Availability
- High Efficiency up to 96%
- Thyristor or IGBT Switch Mode Optional
- Wide Input Voltage Range for Usage in Rural Areas
- Advanced Protection and Data Logging for Industrial Usage
- Short Circuit, Overload, Over Voltage & Over Temperature Protection
- Unlimited Number of Paralleled Modules
- Selectable Output Voltage Values “Lower Than Ordered Unit”
- 6 Pulse, 12 Pulse or Switch Mode Technology
- European 230V / 400V or 108V / 220V & 50Hz / 60Hz Options
- Constant Voltage or Current Option
- Small Footprint, Easy Maintenance & Robust & Anti Rust Cabinet
- Easy Monitoring Voltage, Current, from Screen
- Warning LEDs and Dry Contact as Optional
- Wall Mount or Stand Alone or With Wheel Optional
- Customized Production, Higher Voltage & Current Values
- 24V – 220V / 20Amper - 2000Amper
- Industrial DC UPS with Dropper



*Industrial Applications*



*Petrol Platform Chargers*



*Power Plant Chargers*

\*12Volt – 24Volt – 48Volt – 72Volt – 108Volt – 220Volt / \* 20Amper – 50Amper – 80Amper – 100Amper – 150Amper – 200Amper – 400Amper - 600Amper



# CH-GER Industrial Charger Charging for Industrial Application



[www.germarels.de](http://www.germarels.de)



## In One Cabinet One Charger or 2 Charger in One Cabinet

CH-GER series battery chargers and DC UPS are developed for charging high capacity batteries used in forklifts, GEL batteries, traction batteries electrical earth movers etc... and designed for both individual for your electrical vehicles or industrial use. User friendly control panel and easy operating system is very practical to connect, control.

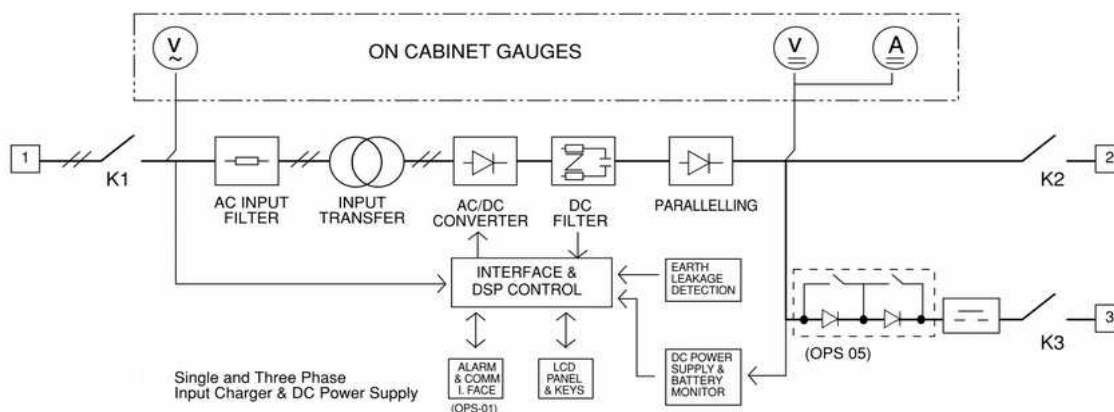
Since the battery charger is electrically smart micro chips controlled charging operation is very safe, easy and extends your NiCd or lead acid battery life. Day-off charging function enables the battery fully charged when it is not used and increase the life time of the battery. There is no need for any adjustments with Plug and play function and charging starts automatically when the battery is connected.

The charger consists of economic, environment-friendly, and reliable DC power supplies that use the resonant converter technology, operating at high frequencies. They have a high input power factor along with very low output voltage ripples. They have a high input power factor along with very low output voltage ripples.

They have a high input power factor along with very low output voltage ripples. They are used extensively for charging lead-acid and as customized nickel cadmium batteries; at telecom and power distribution sites, or wherever DC power is needed.

## Useable Areas:

- Telecom systems,
- Ni-Cd and Lead,
- Acid batteries charger,
- Energy distribution stations,
- Power stations,
- Emergency lighting systems,
- Natural gas distribution control stations
- DC uninterruptible power systems

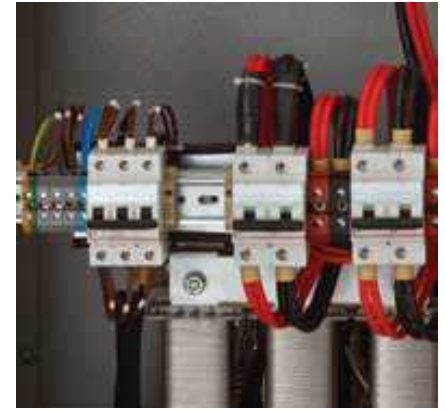
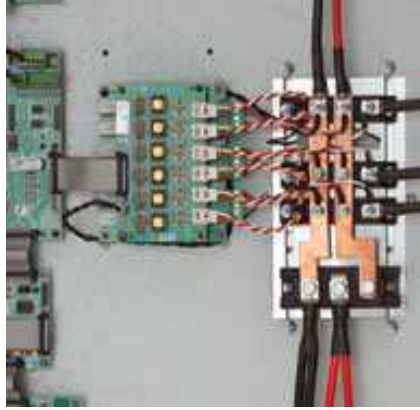
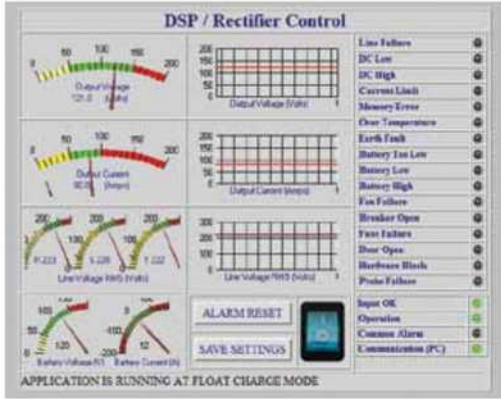


# CH-GER Industrial Chargers

## Charger for DC UPS

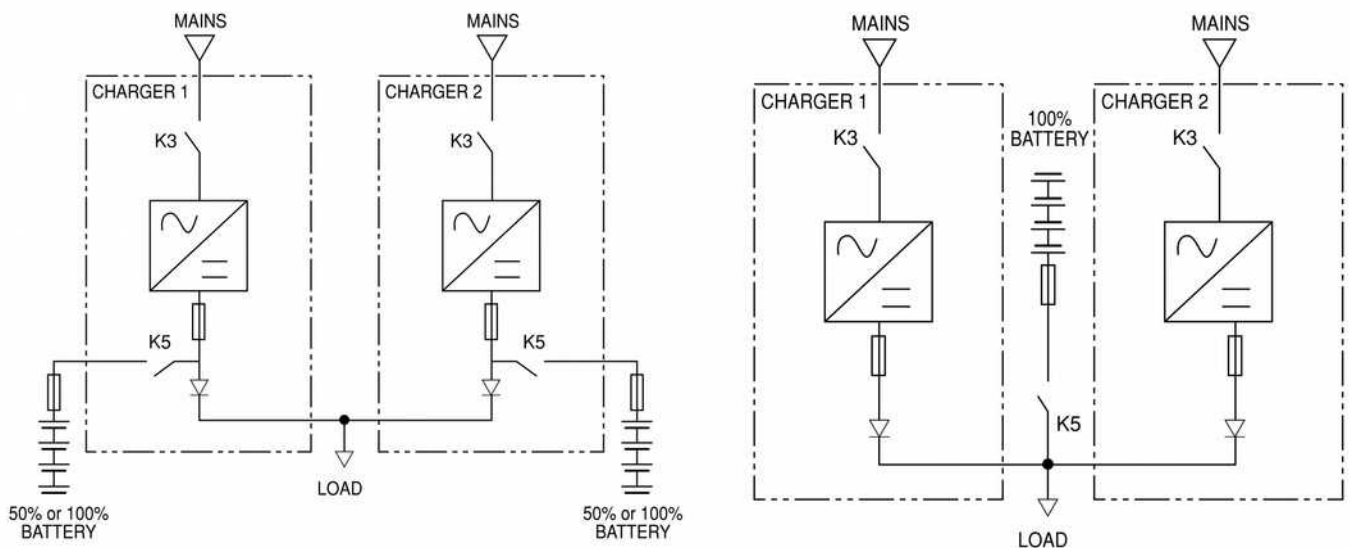
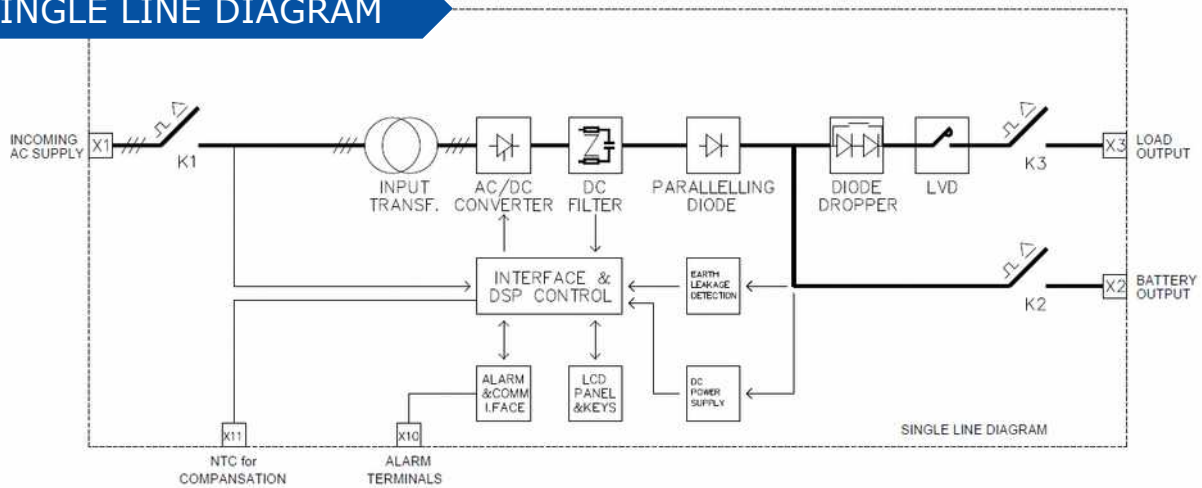


### Single Line Diagram of the Charger DC UPS Sample



Communication Interface

### SINGLE LINE DIAGRAM



# ADDITIONAL FEATURES OPTIONS



[www.germarel.de](http://www.germarel.de)

## OUTDOOR CABINET



Anti-Vibration



Outdoor 3D Drawing

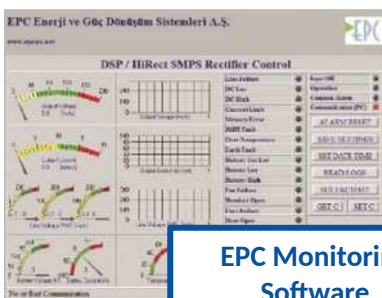


Outdoor Cabinet



TAPEX CABINET

## COMMUNICATION INTERFACES



EPC Monitoring Software



RS485 Converter



Touch Panel



SNMP

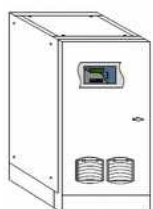


LCD + LED Panel



TCP/IP

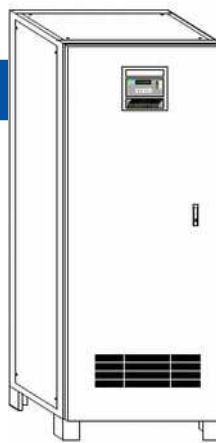
## STANDARD CABINET SIZES



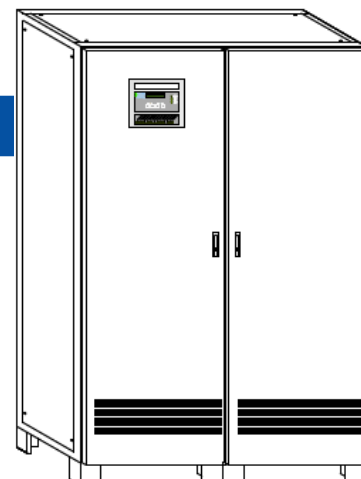
500\*450\*1000mm



600\*600\*1300mm



600\*600\*1900mm



1200\*800\*2100mm

# Technical Advantages of UPS-GER INDUSTRIAL CHARGER, DC POWER SUPPLY

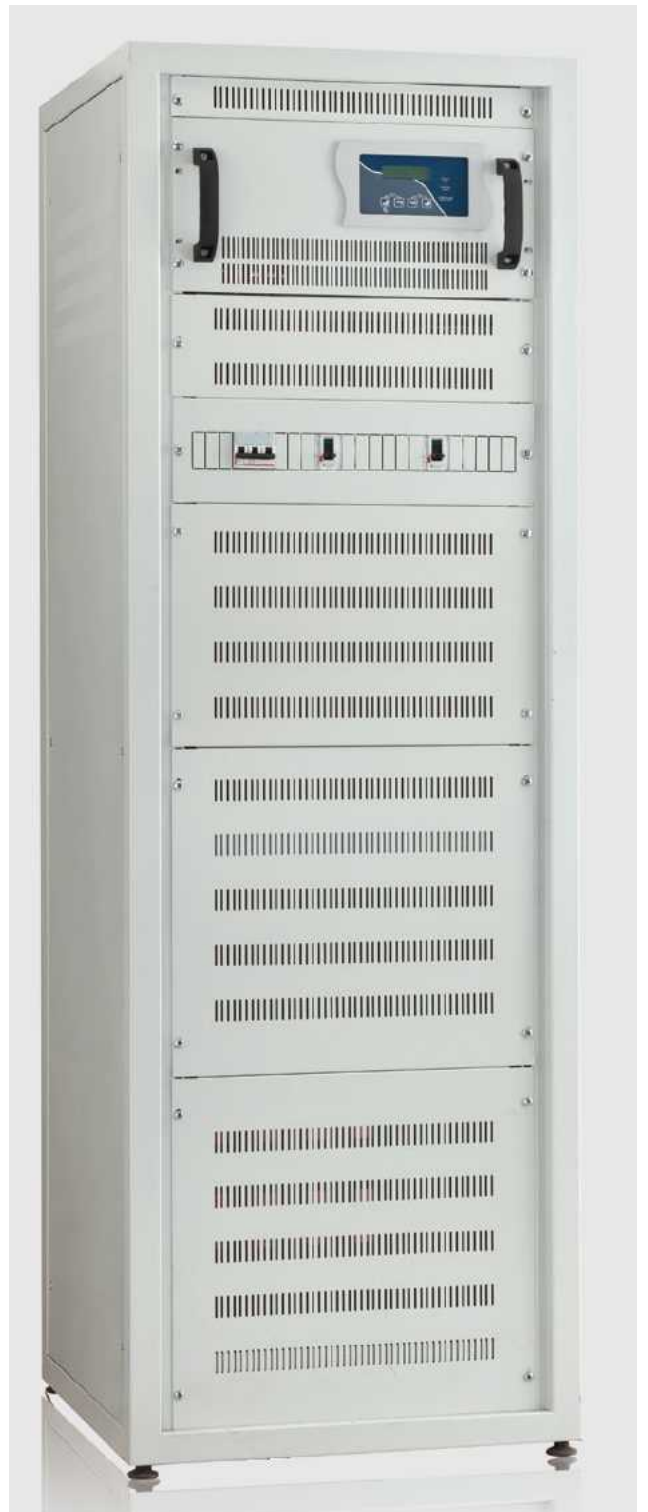
Products	<input checked="" type="checkbox"/> DC UPS Industrial	<input type="checkbox"/> DC Supply	<input type="checkbox"/> Charger Commercial	<input type="checkbox"/> Charger Industrial
Usage Area	<input checked="" type="checkbox"/> Indoor	<input type="checkbox"/> Outdoor	<input type="checkbox"/> Marine	
Power Watt	<input checked="" type="checkbox"/> 0.8PF	<input type="checkbox"/> 0.9PF	<input type="checkbox"/> 1.0PF	
<b>INPUT</b>				
Input Voltage	Selectable	<input type="checkbox"/> 208V	<input checked="" type="checkbox"/> 380V	<input checked="" type="checkbox"/> 400V
Input Voltage Range	<input checked="" type="checkbox"/> -%10 / +%10 (%100Load)	<input checked="" type="checkbox"/> -%15 / +%10 (%90Load)	<input checked="" type="checkbox"/> -%20 / +%10 (%85Load)	<input checked="" type="checkbox"/> -%25 / +%10 (%75Load)
Input Isolation Transformer	Selectable	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Input P.F. & Cable Connection	At Full Load >0.99 & &	<input checked="" type="checkbox"/> Bottom Cable Connection	<input type="checkbox"/> Top Cable Connection	<input type="checkbox"/> Backside Cable Connection
Input Frequency		<input checked="" type="checkbox"/> 50Hz(44Hz-66Hz)	<input type="checkbox"/> 60 HZ "44Hz - 66Hz"	
Input Connection		<input checked="" type="checkbox"/> STAR 3P+N+PE	<input type="checkbox"/> Delta 3P+PE	
Input Connection		<input type="checkbox"/> Dual Input	<input checked="" type="checkbox"/> Single Input	
Input Protection	Phase Sequence Protection & MCCB and Fast Fuse SCR Protection			
Technology	<input type="checkbox"/> Full Bridge	<input checked="" type="checkbox"/> 6Pulse-12Pulse	<input type="checkbox"/> Switchmode Technology PWM	
Rectifier & Harmonic Distortion THD1	<input type="checkbox"/> %1	<input type="checkbox"/> %3	<input type="checkbox"/> %5	<input checked="" type="checkbox"/> %11
<b>OUTPUT</b>				
Output Voltage	%80-%140Adjustable	<input type="checkbox"/> 24V	<input type="checkbox"/> 28 Volt	<input type="checkbox"/> 48 Volt
Output Cable Connection	<input checked="" type="checkbox"/> Bottom Cable Connection	<input type="checkbox"/> Top Cable Connection	<input type="checkbox"/> Backside Cable Connection	
Output Volt. & Current Regulation		<input checked="" type="checkbox"/> %0,5 Voltage	<input checked="" type="checkbox"/> %2 Current	
Output Current	<input type="checkbox"/> 100Amper	<input checked="" type="checkbox"/> 50Amper	<input checked="" type="checkbox"/> Charger 50Amper Total 100Amper	
Output Connection	<input checked="" type="checkbox"/> Single Output	<input checked="" type="checkbox"/> Battery Discharger Connection Dropper (Control)		
Output Ripple & Output Protection	1% & "Output Current Limitation" & Battery Charging with Temperature Control LVD			
Recovery & Auto Start & Isolation	Immediately & Auto Start Adjustable From Screen & 1500-2000V-3000VAC Input Output Chassis			
Efficiency	<input checked="" type="checkbox"/> Till %89 for Pulse Solutions	<input type="checkbox"/> Till %93	<input type="checkbox"/> >%94 for %50Load & >%95 for %100 Load	
Charging Current Details	For Lead Acid, OPZS %10 / For NiCd %20 of the Battery Current Amper Value (Adjustable)			
Overload Capacity & Output Side	At 125% Load 10min, at 150% Load 1min at >%150 300ms & %170 Direct Off/ 0.7PF Lagging - 0.8 Leading			
<b>COMMUNICATION</b>				
Options	<input checked="" type="checkbox"/> RS232 Standard	<input type="checkbox"/> RS485/ Modbus	<input type="checkbox"/> SNMP	<input checked="" type="checkbox"/> Dry Contact Card
Protocol	<input type="checkbox"/> External Screen	<input type="checkbox"/> GPRS- GSM Control	SEC, TELNET, MODBUS (Customized all )	
Communication Alerts & Logging	500 Event Logs & 180 Parameters for Each Log "As Excel Sheet" "Optional Parallel"			
<b>BATTERY</b>				
Quantity & Type & Charge Value	For NiCd 110V 92 Pieces & NiCd & 1,56Volt - Boosting 1,70Volt (92x1,70Volt = 156Volt)			
Battery Consumption & Cabinet	50% of The Device Power & Standard Battery Cabinet & Optional Batteries OPZS - VRLA (2,25 Volt Boost)			
Back Up Time & "Booster Time"	5 Hours (Depends on the Machine And Machine And Project) & "20Hours Adjustable"			
<b>GENERAL</b>				
Cooling & Running Temperature	Forced Air (Option AirCon&Natural)	<input type="checkbox"/> 0°C~40°C	<input checked="" type="checkbox"/> 0°C~50°C	<input type="checkbox"/> -5°C~55°C
Electrical Protection	Aux.TripContact / Over&Low Volt / TMS-MCCB / Low&Over Current / Over Temp. Protection / AC-DC Earth Fault / Dropper DCDC			
Protection Class	<input type="checkbox"/> IP20	<input checked="" type="checkbox"/> IP21	<input type="checkbox"/> IP22	<input type="checkbox"/> IP31
Chassis & Humidity & Noise	<input type="checkbox"/> IP44	<input type="checkbox"/> IP55	<input type="checkbox"/> IP65 with AirCon	
Screen	Anti-Static Anti Rust Coated Painting 20years AntiRust & Protection & 0-95% & 65 Db Maximum			
Altitude	Mimic Diagram Languages English, German	<input type="checkbox"/> 2x16	<input checked="" type="checkbox"/> 4x20	<input type="checkbox"/> 320mmx240mm(Touchscreen)
Cabinet Color	<input checked="" type="checkbox"/> Mimic Diagram LED			
Parallel Operation	@40°C & after 1000Meter for each hundred meter %1 Loss	<input checked="" type="checkbox"/> Till 1000m	<input type="checkbox"/> Till 1500m	<input type="checkbox"/> Till 2000m
EPO (Emergency Power Off)	<input type="checkbox"/> > 2000m	<input type="checkbox"/> Standard for IP20	<input type="checkbox"/> Optional for Outdoor with external screen	
Certification	<input type="checkbox"/> Ral 7060	<input type="checkbox"/> Ral 7035	<input checked="" type="checkbox"/> Ral 7032	<input type="checkbox"/> Ral 7016
Vibration & Earthquake design	<input type="checkbox"/> Ral 1014	<input type="checkbox"/> Black		
Dimensions (WxDxH (cm) UPS	<input type="checkbox"/> Single	<input type="checkbox"/> Redundant till 3s transfer time & Hot Paralleling Sycn. Tech. =>	<input checked="" type="checkbox"/> 2pcs	<input type="checkbox"/> 3pcs
Standard & Performance	<input type="checkbox"/> 4pcs	<input type="checkbox"/> 6pcs	<input type="checkbox"/> 8pcs	
Standard & Performance	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> SGS	<input type="checkbox"/> SASO	<input checked="" type="checkbox"/> IEC
Dimensions (WxDxH (cm) Batt. Cab:	<input type="checkbox"/> BV Marine	<input type="checkbox"/> BV General	<input type="checkbox"/> Soncap	
Isolation Resistance & Quality	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Vibration Reduce	<input type="checkbox"/> Seismic Standard	<input type="checkbox"/> Seismic Customized
	<input checked="" type="checkbox"/> 2x(100X80x140 / 240kg)	<input checked="" type="checkbox"/> 60X60x130 / (253kg)	<input type="checkbox"/> 360x220x240 / (3670kg)	<input type="checkbox"/> 2435x825x2003 / (1990kg)
	EN60146-1-12009 : Semi Conductor Converters - Specific of Basic Requirements & EN60335 HouseHold and similar appliances			
	EN61204 : Low-Voltage Power Supply Devices , DC Output Performance Characteristics, EN61100-6-2/4 , EN50178, EN60529			
	Please Check the Additional Document at your mail			
	200Mega Ohm & "& Electrical parts made in Korea, Europe & Turkey"			

# REFERENCE PHOTOS DC SUPPLY, CHARGE, DC POWER SUPPLY BATTERY CABINET Solution



# REFERENCE PHOTOS

## DC SUPPLY, CHARGE, DC POWER SUPPLY



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