

TC.LIN.SER.40.1000.40

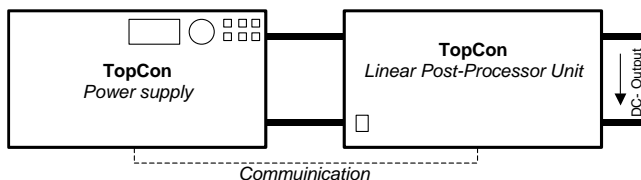
Linear Post Processor Unit for Regatron Power Supplies



Features

- The *Linear Post-Processor Unit* combines the advantages of a primary switched power supply like high efficiency, small outline, light weight, cost efficiency, with the fast, smooth linear controlled output capability of a linear power supply.
- To be used in combination with TopCon power supplies.
- Modular concept for easy power increase: Parallel, master-slave-operation of power supplies and *Linear Post-Processor Units*.
- Very fast digital controller features quick response time, enhanced dynamics and programmable control characteristics for a fast regulation around the MPP of a IV-curve.
- User-friendly PC program available. This enables the user to communicate over the power supply to the *Linear Post-Processor Unit*.
- Seamless integration into the well established TopControl software.
- Swiss made: developed, manufactured and tested in Switzerland by Regatron AG.

System Configuration (single Modules)



Technical Data

Mains input data (Auxiliary Supply)

Voltage	85 ... 264 V _{AC}
Frequency	48 ... 62 Hz
Input power	120 W

DC Input ratings

Input voltage	0 ... 1000 V _{DC}
Input current	40 A _{DCmax}
Leakage current DC to PE	< 10 mA

Output ratings

Output voltage range	0 ... 1000 V _{DC} ¹⁾
Drop Voltage (typical)	40 V ²⁾
Output current full range	0 ... 40 A ³⁾
Output current half range	0 ... 20 A
Output Capacitor	< 10 nF

Dissipation Power

Continuous power diss.	1500 W ⁴⁾
Power diss. < 3 Min	2000 W ⁵⁾
Transient power diss.	Full SOA protection

Operating modes

AAP ⁶⁾ current regulation	0 ... 100 % I _{max} @ 0 ... (V _{max} -V _{Drop})
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Resolution

Voltage, current resolution	14.5 Bit ⁷⁾
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Static accuracy

Load regulation	< ± 0.05 % FS typ. ⁸⁾
Line regulation	< ± 0.05% FS typ. ⁹⁾

Transient response time

Load regulation	< 10 μs ¹⁰⁾
Set value tracking	< 50 μs ¹¹⁾

Stability

	< ± 0.02 % FS ¹²⁾
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Temperature coefficient

Current, voltage	< 0.01 % FS / °C ¹³⁾
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Remote sensing

Terminals on rear side	cable voltage drop compensation
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1) Maximum Output Voltage = Input Voltage – Drop Voltage
 2) Adjustable Value, the Drop Voltage influences directly the power dissipation.
 3) Full Range / Half Range are selectable by PC program TopControl.
 4) At ambient temperature 25 °C, for *current half range* 60 % of specified value.
 5) For Drop Voltage < 250 V_{DC}, for *current half range* 50 % of specified value.
 6) Application Area Programming, e.g. I(U) curves of solar panel / solar array.
 7) Improved by using oversampling technics.
 8) Typical value for 60 % to 70 % load variation, at voltage drop and temperature conditions.
 9) Typical value for variation within 20 V to 60 V drop voltage, at constant load and temperature conditions.

10) Typical recovery time to within < ± 2 % band of set value for a load step 60 % to 70 %, ohmic load, voltage drop > 30 V and constant temperature conditions.
 11) Typical recovery time to within < ± 2 % band of set value for a set value step 60 % to 70 %, ohmic load, voltage drop > 30 V and constant temperature conditions line input and temperature conditions. Transient response time can be slightly affected by multi-unit operation.
 12) Maximum drift over 6 hours after 30 minute warm-up time, at constant line input, load and temperature conditions.
 13) Typical change of output values versus ambient temperature, at constant line input and load conditions.

Standard programming interfaces

Control port	
Isolation to electronics and earth:	125 V _{rms}
Connector	15 pin D-sub, female on rear panel
Input functions	Future use
Output functions	Future use
RS232	
Isolation to electronics and earth:	125 V _{rms}
Connector	9 pin D-sub, female on rear panel
Baud rate	38400 baud
Resolution (programming and readback):	
U, I	0.005 % FS

Safety

Type of protection (IEC 60529)	
Basic construction	IP 20
Mounted in cabinet	up to IP 53
Isolation	
Line to output (auxiliary supply)	4000 V _{rms}
Line to case (auxiliary supply)	2500 V _{rms}
DC-Input, Output to case:	± 1000 V _{DC} , > 10 MΩ

Conformity CE-Marking

EMC Directive	
EMC emission	EN 61000-6-4
EMC immunity	EN 61000-6-2
Low Voltage Directive	
Electronic equipment for use in power installations	EN 50178
RoHS Directive 2011/65/EU	
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances	
	EN IEC 63000

Ambient conditions

Operating temperature	5 ... 40 °C
Storage temperature	-25 ... 70 °C
Relative air humidity (non-condensing)	0 ... 95 %

Cooling

Fans	internal temperature-controlled
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Weight & Dimension

Weight	~23 kg
Width front panel	483 mm
Width housing	444 mm (19")
Height front panel	265 mm
Height housing	262 mm (6 U)
Depth with PACOB	485 mm
Depth housing	450 mm
DC Input Terminals max.: (DC+, DC-, PE)	3 x 25 mm ²
DC Output Terminals max.: (DC+, DC-, PE)	3 x 25 mm ²
Remote Sensing Terminals max. (DC+, DC-)	2 x 10 mm ²

Ordering code

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Scope of delivery

TopCon Linear Post-Processor Unit ready to install, including:	
Operating manual language	english
RS232 cable length	1.8 m
CAN bus	CAN cable CANTerm Connector

Software

TopControl	on Installation disc
API (DLL file)	for LabVIEW® and C/C++
(and other programming languages, to be used in combination with TopCon Power Supplies.)	

For detailed technical information, contact your local sales partner or REGATRON.

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