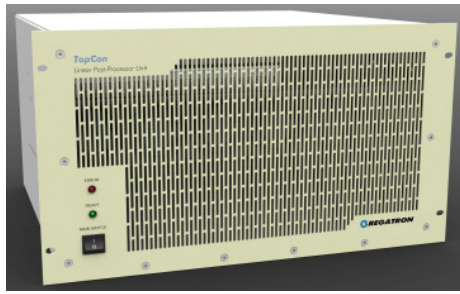


Linear Post-Processor Unit

for Regatron Power Supplies

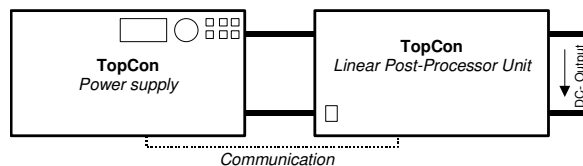


Linear Post-Processor Unit

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
- User-friendly PC program available. This enables the user to communicate over the power supply to the *Linear Post-Processor Unit*.¹⁾
- Seamless integration into the well established TopControl software
- Swiss made: developed, manufactured and tested in Switzerland by Regatron AG.

System Configuration (single Modules)



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40A / 20A / 1000 VDC

TC.LIN.SER.40.1000.40

Input requirements and output specifications

Mains input data (Auxiliary Supply)

Voltage	85 – 264V AC
Frequency	48 – 62Hz
Input power	120W

DC Input ratings

Input voltage	0 – 1000V DC
Input current	40A DC max
Leakage current DC to PE	< 10 mA

Output ratings

Output voltage range	0 – 1000V DC ²⁾
Drop Voltage (typical)	40V ³⁾
Output current full range	0 – 40A ⁴⁾
Output current half range	0 – 20A
Output Capacitor	< 10nF

Dissipation Power

Continuous power diss.	1500W ⁵⁾
Power diss. <3Min	2000W ⁶⁾
Transient power diss.	Full SOA protection

Operating modes

AAP ⁷⁾ voltage regulation CV	0- (V _{max} – V _{Drop})
AAP ⁷⁾ current regulation CC	0 – 100 % I _{max}

Resolution

voltage, current resolution	14.5 Bit ⁸⁾
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Static accuracy

Load regulation CV, CC	< ± 0.1 % FS ⁹⁾
Line regulation CV, CC	< ± 0.1 % FS ¹⁰⁾

Transient response time

Load regulation CV, CC	< 100us ¹¹⁾
Set value tracking CV, CC	< 100us ¹²⁾

Stability

CV, CC	< ± 0.05 % FS ¹³⁾
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Temperature coefficient

CV, CC	< 0.01 % FS / °C ¹⁴⁾
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Remote sensing

Terminals on rear side	cable voltage drop compensation
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General specifications

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 output terminals	485 mm
Depth housing	450 mm
DC input connections:	3 x 25 mm ² (DC+, DC-, PE)
DC Output connections:	3 x 25 mm ² (DC+, DC-, PE)
Remote Sensing connections	2 x 10 mm ² (DC+, DC-)

1) Most commonly used parameter are accessible via PC Program TopControl connected to TopCon Power Supply

2) Maximum Output Voltage = Input Voltage – Drop Voltage

3) Adjustable Value, the Drop Voltage influences directly the power dissipation

4) Full Range / Half Range are selectable by PC program TopControl

5) At ambient temperature 25 °C, for *current half range* 60% of specified value

6) For Drop Voltage < 250VDC, for *current half range* 50% of specified value

7) Application Area Programming, e.g. I(U) curves of solar panel / solar array

8) Improved by using oversampling technics

9) Typical value for 60 to 70 % load variation, at constant line input and temperature conditions.

10) Typical value for variation within 60% to 70% max DC input voltage, at constant load and temperature conditions.

11) Typical recovery time to within < ± 2 % band of set value for a load step 60 to 70 %, ohmic load, at constant line input and temperature conditions. Transient response time can be slightly affected by multi-unit operation.

12) Typical recovery time to within < ± 2 % band of set value for a set value step 60 to 70 %, ohmic load, at constant line input and temperature conditions. Transient response time can be slightly affected by multi-unit operation.

13) Maximum drift over 8 hours after 30 minute warm-up time, at constant line input, load and temperature conditions.

14) Typical change of output values versus ambient temperature, at constant line input and load conditions.

Ambient conditions

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

Cooling

internal temperature-controlled fans

Safety**Type of protection (IEC 529)**

Basic construction	IP 20
Mounted in cabinet	up to IP 43

Isolation

Line to output	4000 Vrms
Line to case	2500 Vrms
DC-Input, Output to case:	± 1000 VDC, > 10 M Ω

Standard programming interfaces**Control port**

Isolation to electronics and earth: 125 Vrms
15 pin D-sub connector, female, on rear panel

Control port input functions

Future use

Control port output functions

Future use

Standard programming interfaces (continued)**RS232**

Isolation to electronics and earth: 125 Vrms
9 pin D-sub connector, female, on rear panel
Baud rate 38400 baud
Resolution (programming and readback):
U, I 0.005 % FS

Ordering code

TC.LIN.SER.40.1000.40

Scope of delivery

TopCon Linear Post-Processor Unit ready to install,
including:
Operating manual (English), RS232 cable 1.8 m,
CAN cable, CANTerm Connector, installation disc
TopControl, API (DLL file) for LabVIEW[®] and C/C++
and other programming languages, to be used in
combination with TopCon Power Supplies.
