



CAEN

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SY 1527, SY 2527, SY 3527

Universal Multichannel Power Supply System



- *SY1527: a new power supply systems family for Large experiments (e.g. LHC)*
- *Up to 16 slots*
- *Secure access via Intranet*
- *High/Low Voltage Boards*
- *Generic I/O Boards*
- *Interface to remote systems*
- *Ground Referred or Floating Boards*
- *TCP/IP, RS232, HS CAENET communication capabilities*
- *OPC server*

SY 1527, SY 2527, SY 3527

Universal Multichannel Power Supply System



- *SY2527: a new power supply systems family for Laboratory app.*
- *Can be mixed with 1527*
- *Up to 6 slots*
- *Max 750 W*

SY 1527, SY 2527, SY 3527

Universal Multichannel Power Supply System

- Master and Slave crates available
- Clustering of crates via local net
 - 1 master 7 slaves

SY 1527, SY 2527, SY 3527

Universal Multichannel Power Supply System

The system has a 16 bit ADC and 16 bit DAC

We use normally only 14 bit (for set and monitor) to have a more stable parameters

Each crate has a complete set of hardware signals to control:

OVV, UNV, CH ON, OVC, TRIP, GEN, TRIP-IN
TRIP-OUT, INTERLOCK, KILL, ENABLE,
RESET, VSEL, ISEL

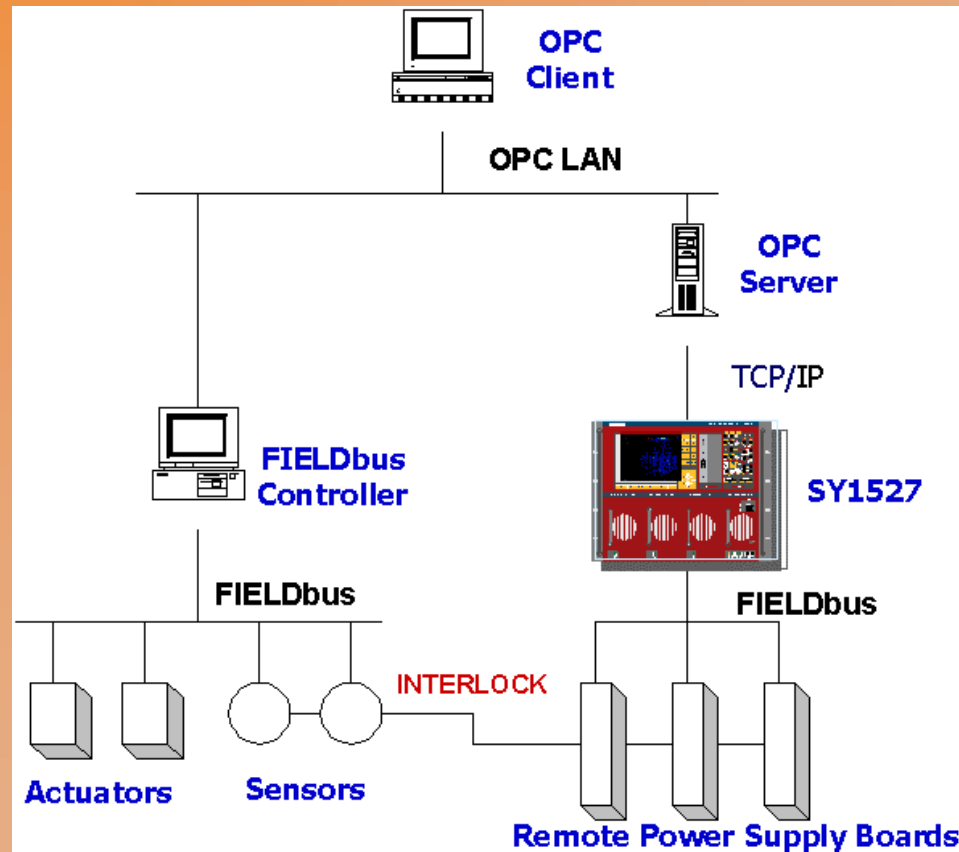
SY 1527, SY 2527, SY 3527

Universal Multichannel Power Supply System

The system can be controlled

- Locally, via FP keyboard and display or RS 232
- Remotely via Ethernet - TCP/IP or High Speed CAENET
- As an option different bus can be implemented

CAEN power supplies *and* Detector Control Systems





Proposed Modules

All the modules are Common Floating Ground,
but the A 1519 which is a Floating module

Detector	Polarity	Cha.	V Req.	I Req.	Model
Pixels	N	1500	1 KV	10 nA-10mA	A 1810, 24 Ch. 1KV/1 μ A/100 μ A/10mA
Strips	P	900	1 KV	10 nA-10mA	A 1810S, 24 Ch. 1KV/4 μ A/200 μ A/10mA
Straws	P	3700	2.2 KV	10 μ A	A 1725, 32 Ch. 2.5 KV/50 μ A
RICH	N	300	22 KV	100 nA	A 1524, 6 Ch. 22 KV/ 1 μ A
	N	150	17 KV	100 nA	A 1525, 6 Ch. 17 KV/ 1 μ A
	P	150	100 V	10 μ A	A 1519, 12 Ch. 250 V/100 μ A/10mA
EM Cal.	N	250	400 V	10 mA	A 1706, 32 Ch. 600 V/ 10 mA
		250	600 V	2 mA	A 1706, 32 Ch. 600 V/ 10 mA
		250	800 V	0.5 mA	A 1710, 32 Ch. 1000 V/ 500 μ A
		700	1 KV	0.1 mA	A 1710, 32 Ch. 1000 V/ 500 μ A
Muon Ch.	P	2500	2 KV	12 μ A	A 1725, 32 Ch. 2.5 KV/50 μ A

SY 1527, SY 2527, SY 3527

Universal Multichannel Power Supply System

High Voltage Boards with dual range

- The series 18xx series boards have a dual range feature. It means the user can select, via a dip switch between two different full scale output currents
- The 1810 and 1810S can be then realized either as a dual scale range or with a three ranges. It depends on the final cost

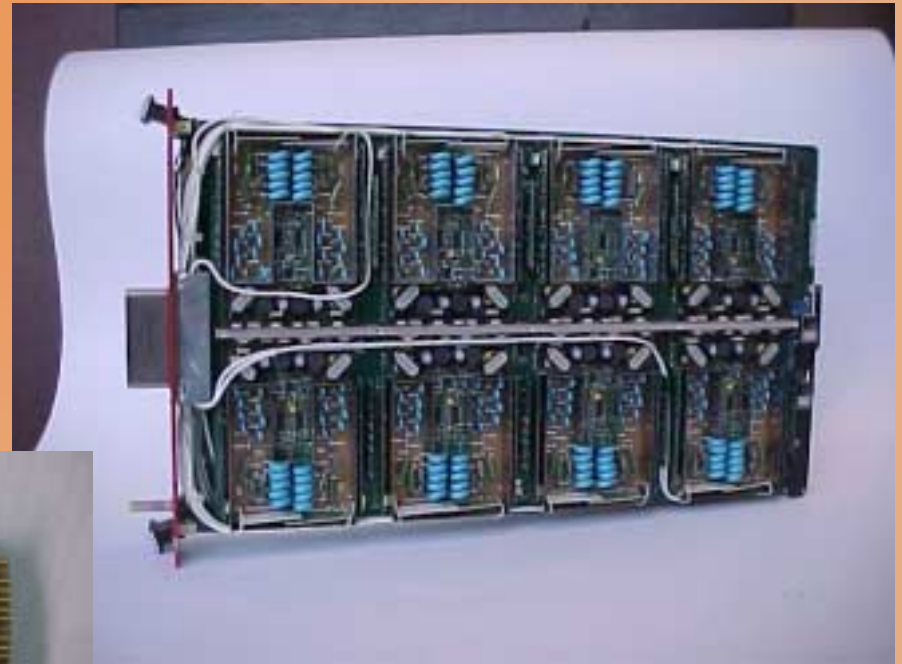
A 1526, 6 Channels 15 KV/0.1 mA/1 mA Common Floating Ground



A 1519, 12 Channels 250 V/0.1 mA/1 mA Floating



A 18xx, 28 Channels x KV/0.1 mA/3 mA



Multipin Connectors



A 1810, 24 Channels 1 KV 1 μ A/100 μ A/ 10 mA

Two slots module

Multipin output connector (Radiall ?)

Resolution 100 mV, 1 nA (100 nA, 10 μ A)

Accuracy: $\pm 0.3\% \pm 0.2$ V

Ripple < 30 mV_{pp}

Silicon Strip

A 1810S, 24 Channels 1 KV 4 μ A/200 μ A/ 10 mA

Two slots module

Multipin output connector (Radiall ?)

Resolution 100 mV, 4 nA (200 nA, 10 μ A)

Accuracy: $\pm 0.3\% \pm 0.2$ V

Ripple < 30 mV_{pp}

A 1725, 32 Channels 2.5 KV 50 μ A

Two slots module

Multipin output connector (Radiall ?)

Resolution 200 mV, 10 nA

Accuracy: $\pm 0.3\% \pm 0.4$ V

Ripple < 30 mV_{pp}

RICH (1)

A 1524, 6 Channels 22 KV 1 μ A

Two slots module

Individual output connector (Reynolds)

Resolution 2 V, 10 nA

Accuracy: $\pm 0.3\% \pm 4$ V

Ripple < 200 mV_{pp}

RICH (2)

A 1525, 6 Channels 17 KV 1 μ A

Two slots module

Individual output connector (Reynolds)

Resolution 1.5 V, 10 nA

Accuracy: $\pm 0.3\% \pm 3V$

Ripple $< 200 \text{ mV}_{pp}$

RICH (3)

A 1519, 12 Channels 250 V 100 μ A/1 mA FLOATING

One slot module

2 Multipin output connector (DB 37)

Resolution 50 mV, 10 nA

Accuracy: $\pm 0.3\% \pm 0.1$ V

Ripple < 30 mV_{pp}

EM Calorimeter (1)

A 1706, 32 Channels 600V 10 mA

Two slots module

Multipin output connector (Radiall ?)

Resolution 100 mV, 10 μ A

Accuracy: $\pm 0.3\% \pm 0.2$ V

Ripple < 30 mV_{pp}

EM Calorimeter (2)

A 1710, 32 Channels 1000V 500 μ A

Two slots module

Multipin output connector (Radiall ?)

Resolution 100 mV, 100 nA

Accuracy: $\pm 0.3\% \pm 0.2$ V

Ripple < 30 mV_{pp}

Muon Chambers

A 1725, 32 Channels 2.5 KV 50 μ A

Two slots module

Multipin output connector (Radiall ?)

Resolution 200 mV, 10 nA

Accuracy: $\pm 0.3\% \pm 0.4$ V

Ripple < 30 mV_{pp}