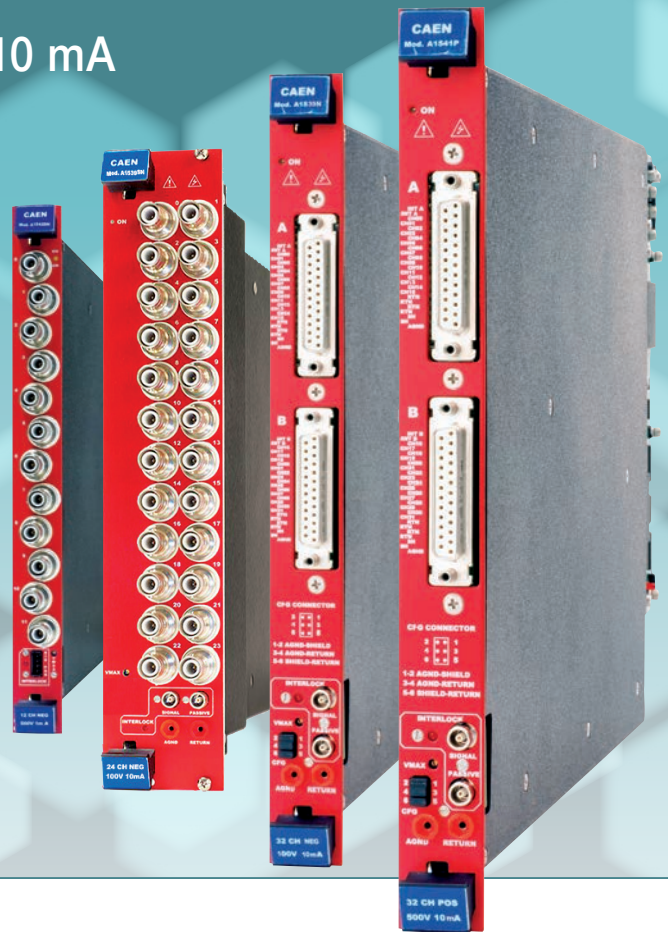


A1539 / A154x

12/24/32 Channel 100/500 V up to 10 mA
High Voltage Power Supply Family



The ultimate solution for your Silicon Detector: Power, Resolution and Flexibility in two new families of High Voltage Power Supply

Features

- 12/24/32 independently controllable High Voltage channels
- 2 different channel grounding
 - Common Ground (AG5xx)
 - Common Floating return (A15xx)
- 10 models available
 - Maximum Voltage: 100 V or 500 V
 - Maximum Current 1mA, 10 mA or 1 mA/100 μ A (dual range boards)
- DB 25 Multi pin or SHV coaxial connectors
- Available with positive, negative or mixed polarity
- 1 mV voltage monitor resolution
- Current monitor resolution up to 100 pA
- Low Ripple
- Independently programmable for each channel:
 - Output voltage (10 mV resolution)
 - Current limit (200/20 nA resolution)
 - Ramp up/down (1 ÷ 50/100 V/sec)
 - TRIP parameter
- Current generator operation in Overcurrent condition

A1539/A154x family house 32, 24 or 12 independent high voltage channels available with either positive, negative or mixed polarity compatible with CAEN Universal Multichannel Power Supply Systems (SY1527, SY2527, SY3527, SY4527, SY5527).

CAEN provides 2 different channel grounding: A15xx (Common Floating Return) and AG5xx (Common Ground). Common Floating Return allows on-detector grounding reducing the noise level; the floating return is insulated from

the crate earth up to ± 50 V (with a 65 V hardware limit).

The boards are available in different versions equipped with SHV or DB25 connectors.

The output voltage range is 0 ÷ 100 V (A1539/40/40H - AG539/40) or 0 ÷ 500 V (A1541/42/42H - AG541/42) with 1mV monitor resolution.

The maximum output current are 1mA (A1540/42 - AG540/42), 10 mA (A1539/41 - AG539/41) or 1 mA/100 μ A (dual range boards: A1540H, A1542H)

Independently programmable for each channel:

- Output voltage: 0 ÷ 100 / 500 V step: 10 mV
- Current limit (Iset): 0 ÷ 1 mA step: 20 nA
- 0 ÷ 10 mA step: 200 nA
- 0 ÷ 1 mA/100 μ A step: 20 nA
- HV Ramp up/down: 1 ÷ 50 / 100 V/sec step: 1 V/sec
- TRIP parameter

Safety features include:

- **Channels can be enabled or disabled** through the Global Interlock logic.
- **Overvoltage and Undervoltage warning** when the output voltage differs from the programmed value.
- **Overcurrent detection:** when a channel attempts to exceed the programmed current limit, it signaled to be in “overcurrent” and enter in a TRIP status. The output voltage is varied to keep the current below the programmed limit for a programmable TRIP time, then the channel is switched off. If TRIP is set to “constant current mode”, the channel behaves like a current generator.
- **Hardware VMAX:** maximum output voltage can be set via front panel potentiometer, at the same common value for all the board channels. VMAX value can be read out via software.
- **Safety Board Interlock:** this protection disables the HV generation when the HV outputs are not connected to their loads (only for Multipin DB25 Connector versions).

Universal Multichannel System - Mainframes



Modularity, Compatibility, Connectivity, Usability and Solidity are the keywords of the system design. The Mainframes have been specifically designed to power all detector

technologies found in modern Physics Experiments, such as photomultipliers, wire chambers, streamers tubes, silicon detectors and others.

The systems are modular, flexible and match not only the requirements of major experiments with large number of channels but also the practical needs of test laboratories, where simple manual operations on a limited number of channels are often desired.



All CAEN Control Software are available for **free download** on the web site.

Control Software available: GECO2020 with user friendly GUI, CAEN HV Wrapper library for custom SW development and HiVoCS Web Interface. EPICS and OPC Server also supported.



Model Compare

Model	Maximum Voltage	Maximum Current	Vset / Vmon Resolution	Iset / Imon Resolution	N. of Channels	Grounding
A1539 - AG539	100 V	10 mA	set: 10 mV mon: 1 mV	set: 200 nA mon: 10 nA	12/24/32	Common Floating Return Common Ground
A1540 - AG540	100 V	1 mA	set: 10 mV mon: 1 mV	set: 20 nA mon: 1 nA	12/24/32	Common Floating Return Common Ground
A1540H	100 V	1 mA / 100 μ A	set: 10 mV mon: 1 mV	set: 20 nA mon: 1 nA / 100 pA	12/24/32	Common Floating Return
A1541 - AG541	500 V	10 mA	set: 10 mV mon: 1 mV	set: 200 nA mon: 10 nA	12/24/32	Common Floating Return Common Ground
A1542 - AG542	500 V	1 mA	set: 10 mV mon: 1 mV	set: 20 nA mon: 10 nA	12/24/32	Common Floating Return Common Ground
A1542H	500 V	1 mA / 100 μ A	set: 10 mV mon: 1 mV	set: 20 nA mon: 1 nA / 100 pA	12/24/32	Common Floating Return

Ordering Option - A1539 / A154x

S = Single width (5 TE wide)
D = Double width (10 TE wide)

Model	Code	Description	S/D
A1539	WA1539DXAAAA	A1539DN - SYx527 H.V. channel -100 V 10 mA - SHV Conn. common floating (12 ch)	S
	WA1539DXMAAA	A1539DM - SYx527 H.V. channel (6ch +100V 10mA, 6ch -100V 10mA) - SHV Conn. common floating	S
	WA1539DXPAAA	A1539DP - SYx527 H.V. channel +100 V 10 mA - SHV Conn. common floating (12 ch)	S
	WA1539LXAAAA	A1539LN - SYx527 H.V. channel -100 V 10 mA - Multipin Conn. common floating (24 ch)	S
	WA1539LPXAAA	A1539LP - SYx527 H.V. channel +100 V 10 mA - Multipin Conn. common floating (24 ch)	S
	WA1539SXAAAA	A1539SN - SYx527 H.V. channel -100 V 10 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1539SXMAAA	A1539SM - SYx527 H.V. channel (12ch +100V 10mA, 12ch -100V 10mA) - SHV Conn. common floating (10TE)	D
	WA1539SXPAAA	A1539SP - SYx527 H.V. channel +100 V 10 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1539XAAAA	A1539N - SYx527 H.V. channel -100 V 10 mA - Multipin Conn. common floating (32 ch)	S
	WA1539XPAAAA	A1539P - SYx527 H.V. channel +100 V 10 mA - Multipin Conn. common floating (32 ch)	S
	A1540 WA1540DXAAAA	A1540DN - SYx527 H.V. channel -100 V 1 mA - SHV Conn. common floating (12 ch)	S
	WA1540DXMAAA	A1540DM - SYx527 H.V. channel (6ch +100V 1mA, 6ch -100V 1mA) - SHV common floating	S
	WA1540DXPAAA	A1540DP - SYx527 H.V. channel +100 V 1 mA - SHV Conn. common floating (12 ch)	S
	WA1540LXAAAA	A1540LN - SYx527 H.V. channel -100 V 1 mA - Multipin Conn. common floating (24 ch)	S
	WA1540LPXAAA	A1540LP - SYx527 H.V. channel +100 V 1 mA - Multipin Conn. common floating (24 ch)	S
	WA1540SXAAAA	A1540SN - SYx527 H.V. channel -100 V 1 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1540SXMAAA	A1540SM - SYx527 H.V. channel (12ch +100V 1mA, 12ch -100V 1mA) - SHV common floating (10TE wide)	D
	WA1540SXPAAA	A1540SP - SYx527 H.V. channel +100 V 1 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1540XAAAA	A1540N - SYx527 H.V. channel -100 V 1 mA - Multipin Conn. common floating (32 ch)	S
	WA1540XPAAAA	A1540P - SYx527 H.V. channel +100 V 1 mA - Multipin Conn. common floating (32 ch)	S
	A1540H WA1540HDXAAA	A1540HDN - SYx527 H.V. channel -100V 1mA/100µA (100pA res) - SHV Conn. common floating (12 ch)	S
	WA1540HDXMAA	A1540HDM - SYx527 H.V. (6ch +100V 1mA/100µA, 6ch -100V 1mA/100µA) (100pA res) - SHV Conn. comm float	S
	WA1540HDXPAA	A1540HDP - SYx527 H.V. channel +100V 1mA/100µA (100pA res) - SHV Conn. common floating (12 ch)	S
	WA1540HLXAAA	A1540HLN - SYx527 H.V. channel -100V 1mA/100µA (100pA res) - Multipin Conn. common floating (24 ch)	S
	WA1540HLXPAA	A1540HLP - SYx527 H.V. channel +100V 1mA/100µA (100pA res) - Multipin Conn. common floating (24 ch)	S
	WA1540HSXAAA	A1540HSN - SYx527 H.V. channel -100V 1mA/100µA (100pA res) - SHV Conn. common floating (24 ch 10TE)	D
	WA1540HSXMAA	A1540HSM - SYx527 H.V. (12ch +100V 1mA/100µA, 12ch -100V 1mA/100µA) (100pA res) SHV c. float (10TE)	D
	WA1540HSXPAA	A1540HSP - SYx527 H.V. channel +100V 1mA/100µA (100pA res) - SHV Conn. common floating (24 ch 10TE)	D
	WA1540HXAAAA	A1540HN - SYx527 H.V. channel -100V 1mA/100µA (100pA res) - Multipin Conn. common floating (32 ch)	S
	WA1540HXPAAA	A1540HP - SYx527 H.V. channel +100V 1mA/100µA (100pA res) - Multipin Conn. common floating (32 ch)	S
	A1541 WA1541DXAAAA	A1541DN - SYx527 H.V. channel -500 V 10 mA - SHV Conn. common floating (12 ch)	S
	WA1541DXMAAA	A1541DM - SYx527 H.V. channel (6ch +500V 10mA, 6ch -500V 10mA) - SHV Conn. common floating	S
	WA1541DXPAAA	A1541DP - SYx527 H.V. channel +500 V 10 mA - SHV Conn. common floating (12 ch)	S
	WA1541LXAAAA	A1541LN - SYx527 H.V. channel -500 V 10 mA - Multipin Conn. common floating (24 ch)	S
	WA1541LPXAAA	A1541LP - SYx527 H.V. channel +500 V 10 mA - Multipin Conn. common floating (24 ch)	S
	WA1541SXAAAA	A1541SN - SYx527 H.V. channel -500 V 10 mA - SHV Conn. common floating (24 ch 10TE wide)	D

Model	Code	Description	S/D
A1541 continued	WA1541SXMAAA	A1541SM - SYx527 H.V. channel (12ch +500V 10mA, 12ch -500V 10mA) - SHV Conn. common floating (10TE)	D
	WA1541SXPAAA	A1541SP - SYx527 H.V. channel +500 V 10 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1541XAAAA	A1541N - SYx527 H.V. channel -500 V 10 mA - Multipin Conn. common floating (32 ch)	S
	WA1541XPAAAA	A1541P - SYx527 H.V. channel +500 V 10 mA - Multipin Conn. common floating (32 ch)	S
A1542	WA1542DXAAAA	A1542DN - SYx527 H.V. channel -500 V 1 mA - SHV Conn. common floating (12 ch)	S
	WA1542DXMAAA	A1542DM - SYx527 H.V. channel (6ch +500V 1mA, 6ch -500V 1mA) - SHV common floating	S
	WA1542DXPAAA	A1542DP - SYx527 H.V. channel +500 V 1 mA - SHV Conn. common floating (12 ch)	S
	WA1542LXAAAA	A1542LN - SYx527 H.V. channel -500 V 1 mA - Multipin Conn. common floating (24 ch)	S
	WA1542LPXAAA	A1542LP - SYx527 H.V. channel +500 V 1 mA - Multipin Conn. common floating (24 ch)	S
	WA1542SXAAAA	A1542SN - SYx527 H.V. channel -500 V 1 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1542SXMAAA	A1542SM - SYx527 H.V. channel (12ch +500V 1mA, 12ch -500V 1mA) - SHV common floating (10TE wide)	D
	WA1542SXPAAA	A1542SP - SYx527 H.V. channel +500 V 1 mA - SHV Conn. common floating (24 ch 10TE wide)	D
	WA1542XAAAA	A1542N - SYx527 H.V. channel -500 V 1 mA - Multipin Conn. common floating (32 ch)	S
	WA1542XPAAAA	A1542P - SYx527 H.V. channel +500 V 1 mA - Multipin Conn. common floating (32 ch)	S
	A1542H WA1542HDXAAA	A1542HDN - SYx527 H.V. channel -500V 1mA/100µA (100pA res) - SHV Conn. common floating (12 ch)	S
	WA1542HDXMAA	A1542HDM - SYx527 H.V. (6ch +500V 1mA/100µA, 6ch -500V 1mA/100µA) (100pA res) - SHV Conn. comm float	S
	WA1542HDXPAA	A1542HDP - SYx527 H.V. channel +500V 1mA/100µA (100pA res) - SHV Conn. common floating (12 ch)	S
	WA1542HLXAAA	A1542HLN - SYx527 H.V. channel -500V 1mA/100µA (100pA res) - Multipin Conn. common floating (24 ch)	S
	WA1542HLXPAA	A1542HLP - SYx527 H.V. channel +500V 1mA/100µA (100pA res) - Multipin Conn. common floating (24 ch)	S
	WA1542HSXAAA	A1542HSN - SYx527 H.V. channel -500V 1mA/100µA (100pA res) - SHV Conn. common floating (24 ch 10TE)	D
	WA1542HSXMAA	A1542HSM - SYx527 H.V. (12ch +500V 1mA/100µA, 12ch -500V 1mA/100µA) (100pA res) SHV c. float (10TE)	D
	WA1542HSXPAA	A1542HSP - SYx527 H.V. channel +500V 1mA/100µA (100pA res) - SHV Conn. common floating (24 ch 10TE)	D
	WA1542HXAAAA	A1542HN - SYx527 H.V. channel -500V 1mA/100µA (100pA res) - Multipin Conn. common floating (32 ch)	S
	WA1542HPXAAA	A1542HP - SYx527 H.V. channel +500V 1mA/100µA (100pA res) - Multipin Conn. common floating (32 ch)	S

Ordering Option - A1539 / A154x - continued

S = Single width (5 TE wide)
D = Double width (10 TE wide)

Model	Code	Description	S/D
AG539	WAG539DXAAAA	AG539DN - SYx527 H.V. channel -100 V 10 mA - SHV Conn. common ground (12 ch)	S
	WAG539DXMAAA	AG539DM - SYx527 H.V. channel (6ch +100V 10mA, 6ch -100V 10mA) - SHV Conn. common ground	S
	WAG539DXPAAA	AG539DP - SYx527 H.V. channel +100 V 10 mA - SHV Conn. common ground (12 ch)	S
	WAG539LXAAAA	AG539LN - SYx527 H.V. channel -100 V 10 mA - Multipin Conn. common ground (24 ch)	S
	WAG539LXPAAA	AG539LP - SYx527 H.V. channel +100 V 10 mA - Multipin Conn. common ground (24 ch)	S
	WAG539SXAAAA	AG539SN - SYx527 H.V. channel -100 V 10 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG539SXMAAA	AG539SM - SYx527 H.V. channel (12ch +100V 10mA, 12ch -100V 10mA) - SHV Conn. common ground (10TE)	D
	WAG539SXPAAA	AG539SP - SYx527 H.V. channel +100 V 10 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG539XAAAAA	AG539N - SYx527 H.V. channel -100 V 10 mA - Multipin Conn. common ground (32 ch)	S
	WAG539XPAAAA	AG539P - SYx527 H.V. channel +100 V 10 mA - Multipin Conn. common ground (32 ch)	S
AG540	WAG540DXAAAA	AG540DN - SYx527 H.V. channel -100 V 1 mA - SHV Conn. common ground (12 ch)	S
	WAG540DXMAAA	AG540DM - SYx527 H.V. channel (6ch +100V 1mA, 6ch -100V 1mA) - SHV Conn. common ground	S
	WAG540DXPAAA	AG540DP - SYx527 H.V. channel +100 V 1 mA - SHV Conn. common ground (12 ch)	S
	WAG540LXAAAA	AG540LN - SYx527 H.V. channel -100 V 1 mA - Multipin Conn. common ground (24 ch)	S
	WAG540LPXAAA	AG540LP - SYx527 H.V. channel +100 V 1 mA - Multipin Conn. common ground (24 ch)	S
	WAG540SXAAAA	AG540SN - SYx527 H.V. channel -100 V 1 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG540SXMAAA	AG540SM - SYx527 H.V. channel (12ch +100V 1mA, 12ch -100V 1mA) - SHV Conn. common ground (10TE wide)	D
	WAG540SXPAAA	AG540SP - SYx527 H.V. channel +100 V 1 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG540XAAAAA	AG540N - SYx527 H.V. channel -100 V 1 mA - Multipin Conn. common ground (32 ch)	S
	WAG540XPAAAA	AG540P - SYx527 H.V. channel +100 V 1 mA - Multipin Conn. common ground (32 ch)	S
AG541	WAG541DXAAAA	AG541DN - SYx527 H.V. channel -500 V 10 mA - SHV Conn. common ground (12 ch)	S
	WAG541DXMAAA	AG541DM - SYx527 H.V. channel (6ch +500V 10mA, 6ch -500V 10mA) - SHV Conn. common ground	S
	WAG541DXPAAA	AG541DP - SYx527 H.V. channel +500 V 10 mA - SHV Conn. common ground (12 ch)	S
	WAG541LXAAAA	AG541LN - SYx527 H.V. channel -500 V 10 mA - Multipin Conn. common ground (24 ch)	S
	WAG541LPXAAA	AG541LP - SYx527 H.V. channel +500 V 10 mA - Multipin Conn. common ground (24 ch)	S
	WAG541SXAAAA	AG541SN - SYx527 H.V. channel -500 V 10 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG541SXMAAA	AG541SM - SYx527 H.V. channel (12ch +500V 10mA, 12ch -500V 10mA) - SHV Conn. common ground (10TE)	D

Model	Code	Description	S/D
AG541 continued	WAG541XPAAAA	AG541SP - SYx527 H.V. channel +500 V 10 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG541XAAAAA	AG541N - SYx527 H.V. channel -500 V 10 mA - Multipin Conn. common ground (32 ch)	S
	WAG541XPAAAA	AG541P - SYx527 H.V. channel +500 V 10 mA - Multipin Conn. common ground (32 ch)	S
AG542	WAG542DXAAAA	AG542DN - SYx527 H.V. channel -500 V 1 mA - SHV Conn. common ground (12 ch)	S
	WAG542DXMAAA	AG542DM - SYx527 H.V. channel (6ch +500V 1mA, 6ch -500V 1mA) - SHV common ground	S
	WAG542DXPAAA	AG542DP - SYx527 H.V. channel +500 V 1 mA - SHV Conn. common ground (12 ch)	S
	WAG542LXAAAA	AG542LN - SYx527 H.V. channel -500 V 1 mA - Multipin Conn. common ground (24 ch)	S
	WAG542LPXAAA	AG542LP - SYx527 H.V. channel +500 V 1 mA - Multipin Conn. common ground (24 ch)	S
	WAG542SXAAAA	AG542SN - SYx527 H.V. channel -500 V 1 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG542SXMAAA	AG542SM - SYx527 H.V. channel (12ch +500V 1mA, 12ch -500V 1mA) - SHV common ground (10TE wide)	D
	WAG542SXPAAA	AG542SP - SYx527 H.V. channel +500 V 1 mA - SHV Conn. common ground (24 ch 10TE wide)	D
	WAG542XAAAAA	AG542N - SYx527 H.V. channel -500 V 1 mA - Multipin Conn. common ground (32 ch)	S
	WAG542XPAAAA	AG542P - SYx527 H.V. channel +500 V 1 mA - Multipin Conn. common ground (32 ch)	S



News from Catalog web page
www.caen.it/news



n Small details
Great differences

CAEN
Tools for Discovery

Copyright © CAEN SpA - 2016
All rights reserved. Information in this publication supersedes all earlier versions. Specifications subject to change without notice.
Printed in March 2016 - BF3336 - rev02

CAEN SpA
Via Vetraria 11
55049 - Viareggio • Italy
Phone +39.0584.388.398
Fax +39.0584.388.959
info@caen.it
www.caen.it

CAEN GmbH
Klingenstraße 108
42651 - Solingen • Germany
Phone +49.212.2544077
Fax +49.212.2544079
info@caen-de.com
www.caen-de.com

CAEN Technologies, Inc.
1140 Bay Street - Suite 2C
Staten Island, NY 10305 • USA
Phone +1.718.981.0401
Fax +1.718.556.9185
info@caentechnologies.com
www.caentechnologies.com