

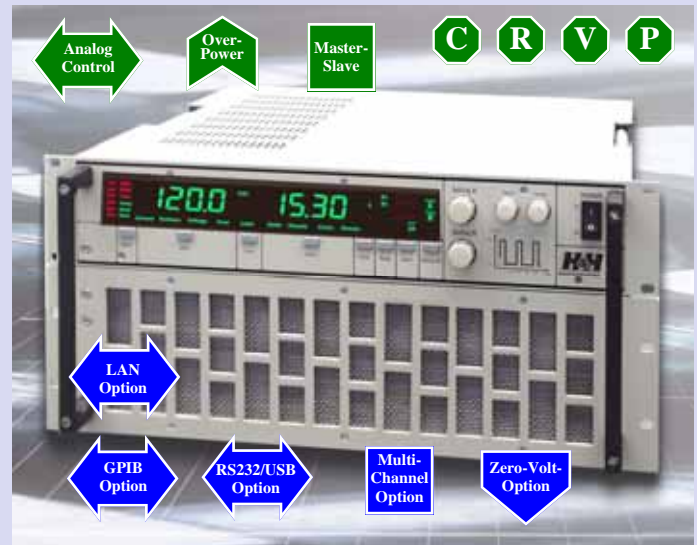
# Electronic Loads

## 2- and 4-Quadrant Supplies



### ZS DC Loads

- Power 500W to 28800W
- Voltage up to 800V, current up to 2700A
- Fast rise time for dynamic loading
- Flexible analog interface, optional with galvanic insulation
- Pluggable data interface boards, also for multichannelled systems
- Zero-Volt-Option (optional) for loading to short-circuit (up to max. 300A)
- Overloadable (depending on model)



★ Multiple-range devices with 3 or 4 setting ranges

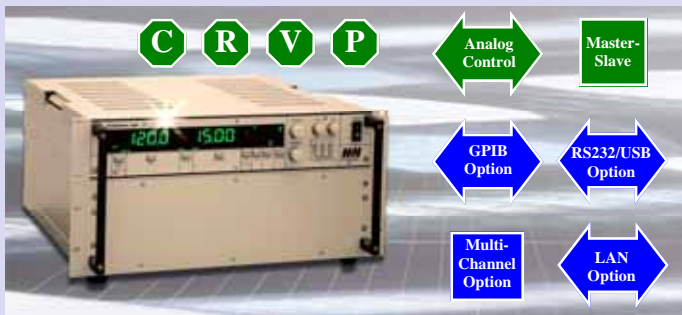
Model	Power	Current	Voltage	Dimensions
ZS506-4 ★	500 W	60 V	60 mA/0.6 A/6 A/60 A	19"-2 HU
ZS512-4 ★	500 W	120 V	30 mA/0.3 A/3 A/30 A	19"-2 HU
ZS530-3 ★	500 W	300 V	0.12 A/1.2 A/12 A	19"-2 HU
ZS560-3 ★	500 W	600 V	60 mA/0.6 A/6 A	19"-2 HU
ZS580-3 ★	500 W	800 V	45 mA/0.45 A/4.5 A	19"-2 HU
ZS506	500 W	60 V	80 A	19"-2 HU
ZS806	800 W	60 V	100 A	19"-2 HU
ZS812	800 W	120 V	60 A	19"-2 HU
ZS830	800 W	300 V	24 A	19"-2 HU
ZS860	800 W	600 V	12 A	19"-2 HU
ZS880	800 W	800 V	9 A	19"-2 HU
ZS1806	1 800 W	60 V	150 A	19"-3 HU
ZS1812	1 800 W	120 V	75 A	19"-3 HU
ZS1830	1 800 W	300 V	30 A	19"-3 HU
ZS1860	1 800 W	600 V	20 A	19"-3 HU
ZS1880	1 800 W	800 V	15 A	19"-3 HU
ZS3206	3 200 W	60 V	300 A	19"-5 HU
ZS3212	3 200 W	120 V	150 A	19"-5 HU
ZS3030	3 000 W	300 V	60 A	19"-5 HU
ZS3060	3 000 W	600 V	40 A	19"-5 HU
ZS3080	3 000 W	800 V	30 A	19"-5 HU
ZS4806	4 800 W	60 V	450 A	19"-5 HU
ZS4812	4 800 W	120 V	225 A	19"-5 HU
ZS4230	4 200 W	300 V	90 A	19"-5 HU
ZS4260	4 200 W	600 V	60 A	19"-5 HU
ZS4280	4 200 W	800 V	45 A	19"-5 HU
ZS6406	6 400 W	60 V	600 A	19"-8 HU
ZS6412	6 400 W	120 V	300 A	19"-8 HU
ZS5630	5 600 W	300 V	120 A	19"-8 HU
ZS5660	5 600 W	600 V	80 A	19"-8 HU
ZS5680	5 600 W	800 V	60 A	19"-8 HU
ZS8006	8 000 W	60 V	750 A	19"-8 HU
ZS8012	8 000 W	120 V	375 A	19"-8 HU
ZS7030	7 000 W	300 V	150 A	19"-8 HU
ZS7060	7 000 W	600 V	100 A	19"-8 HU
ZS7080	7 000 W	800 V	75 A	19"-8 HU
ZS9606	9 600 W	60 V	900 A	19"-8 HU
ZS9612	9 600 W	120 V	450 A	19"-8 HU
ZS8430	8 400 W	300 V	180 A	19"-8 HU
ZS8460	8 400 W	600 V	120 A	19"-8 HU
ZS8480	8 400 W	800 V	90 A	19"-8 HU
ZS11206	11 200 W	60 V	1 050 A	19"-11 HU
ZS11212	11 200 W	120 V	525 A	19"-11 HU
ZS9830	9 800 W	300 V	210 A	19"-11 HU
ZS9860	9 800 W	600 V	140 A	19"-11 HU
ZS9880	9 800 W	800 V	105 A	19"-11 HU
ZS12806	12 800 W	60 V	1 200 A	19"-11 HU
ZS12812	12 800 W	120 V	600 A	19"-11 HU
ZS11230	11 200 W	300 V	240 A	19"-11 HU
ZS11260	11 200 W	600 V	160 A	19"-11 HU
ZS11280	11 200 W	800 V	120 A	19"-11 HU

Model	Power	Voltage	Current	Dimensions
ZS14406	14 400 W	60 V	1 350 A	19"-11 HU
ZS14412	14 400 W	120 V	675 A	19"-11 HU
ZS12630	12 600 W	300 V	270 A	19"-11 HU
ZS12660	12 600 W	600 V	180 A	19"-11 HU
ZS12680	12 600 W	800 V	135 A	19"-11 HU
ZS16006	16 000 W	60 V	1 500 A	19"-14 HU
ZS16012	16 000 W	120 V	750 A	19"-14 HU
ZS14030	14 000 W	300 V	300 A	19"-14 HU
ZS14060	14 000 W	600 V	200 A	19"-14 HU
ZS14080	14 000 W	800 V	150 A	19"-14 HU
ZS17606	17 600 W	60 V	1 650 A	19"-14 HU
ZS17612	17 600 W	120 V	825 A	19"-14 HU
ZS15430	15 400 W	300 V	330 A	19"-14 HU
ZS15460	15 400 W	600 V	220 A	19"-14 HU
ZS15480	15 400 W	800 V	165 A	19"-14 HU
ZS19206	19 200 W	60 V	1 800 A	19"-14 HU
ZS19212	19 200 W	120 V	900 A	19"-14 HU
ZS16830	16 800 W	300 V	360 A	19"-14 HU
ZS16860	16 800 W	600 V	240 A	19"-14 HU
ZS16880	16 800 W	800 V	180 A	19"-14 HU
ZS20806	20 800 W	60 V	1 950 A	19"-17 HU
ZS20812	20 800 W	120 V	975 A	19"-17 HU
ZS18230	18 200 W	300 V	390 A	19"-17 HU
ZS18260	18 200 W	600 V	260 A	19"-17 HU
ZS18280	18 200 W	800 V	195 A	19"-17 HU
ZS22406	22 400 W	60 V	2 100 A	19"-17 HU
ZS22412	22 400 W	120 V	1 050 A	19"-17 HU
ZS19630	19 600 W	300 V	420 A	19"-17 HU
ZS19660	19 600 W	600 V	280 A	19"-17 HU
ZS19680	19 600 W	800 V	210 A	19"-17 HU
ZS24006	24 000 W	60 V	2 250 A	19"-17 HU
ZS24012	24 000 W	120 V	1 125 A	19"-17 HU
ZS21030	21 000 W	300 V	450 A	19"-17 HU
ZS21060	21 000 W	600 V	300 A	19"-17 HU
ZS21080	21 000 W	800 V	225 A	19"-17 HU
ZS25606	25 600 W	60 V	2 400 A	19"-20 HU
ZS25612	25 600 W	120 V	1 200 A	19"-20 HU
ZS22430	22 400 W	300 V	480 A	19"-20 HU
ZS22460	22 400 W	600 V	320 A	19"-20 HU
ZS22480	22 400 W	800 V	240 A	19"-20 HU
ZS27206	27 200 W	60 V	2 550 A	19"-20 HU
ZS27212	27 200 W	120 V	1 275 A	19"-20 HU
ZS23830	23 800 W	300 V	510 A	19"-20 HU
ZS23860	23 800 W	600 V	340 A	19"-20 HU
ZS23880	23 800 W	800 V	255 A	19"-20 HU
ZS28806	28 800 W	60 V	2 700 A	19"-20 HU
ZS28812	28 800 W	120 V	1 350 A	19"-20 HU
ZS25230	25 200 W	300 V	540 A	19"-20 HU
ZS25260	25 200 W	600 V	360 A	19"-20 HU
ZS25280	25 200 W	800 V	270 A	19"-20 HU

Too little power? Please ask us. We will propose the suitable unit.

## ZSLC Liquid-Cooled Loads

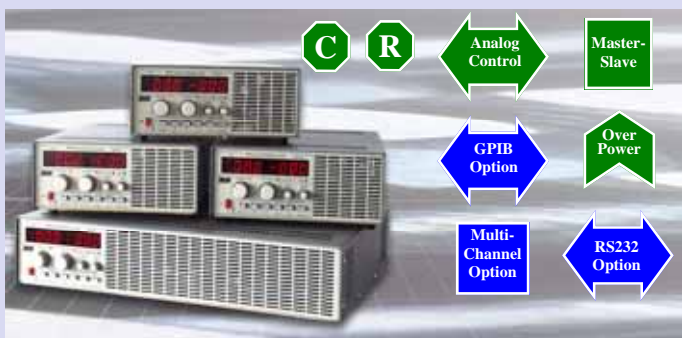
- High power at small dimensions
- Low noise
- Up to 100kW in parallel mode



Model	Power	Voltage	Current	Dimensions
ZSLC8006	8 000 W	60 V	500 A	19"-5 HU
ZSLC8012	8 000 W	120 V	350 A	19"-5 HU
ZSLC8030	8 000 W	300 V	200 A	19"-5 HU
ZSLC8060	8 000 W	600 V	100 A	19"-5 HU
ZSLC16006	16 000 W	60 V	1 000 A	19"-8 HU
ZSLC16012	16 000 W	120 V	700 A	19"-8 HU
ZSLC16030	16 000 W	300 V	400 A	19"-8 HU
ZSLC16060	16 000 W	600 V	200 A	19"-8 HU
ZSLC24006	24 000 W	60 V	1 500 A	19"-11 HU
ZSLC24012	24 000 W	120 V	1 050 A	19"-11 HU
ZSLC24030	24 000 W	300 V	600 A	19"-11 HU
ZSLC24060	24 000 W	600 V	300 A	19"-11 HU
ZSLC32006	32 000 W	60 V	2 000 A	19"-14 HU
ZSLC32012	32 000 W	120 V	1 400 A	19"-14 HU
ZSLC32030	32 000 W	300 V	800 A	19"-14 HU
ZSLC32060	32 000 W	600 V	400 A	19"-14 HU
ZSLC40006	40 000 W	60 V	2 500 A	19"-17 HU
ZSLC40012	40 000 W	120 V	1 750 A	19"-17 HU
ZSLC40030	40 000 W	300 V	1 000 A	19"-17 HU
ZSLC40060	40 000 W	600 V	500 A	19"-17 HU

## PL DC Loads

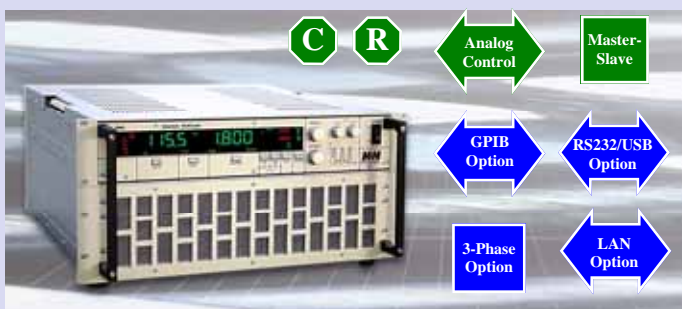
- 500W - 1000W - 1500W
- Dynamic functions
- Short-time overloadable



Model	Power	Voltage	Current	Dimensions
PL506	500 W	60 V	50 A	½ 19"-2 HU
PL506 SC5	300 W	60 V	5 A	½ 19"-2 HU
PL512	500 W	120 V	20 A	½ 19"-2 HU
PL524	500 W	240 V	10 A	½ 19"-2 HU
PL540	500 W	400 V	8 A	½ 19"-2 HU
PL1006	1 000 W	60 V	100 A	19"-2 HU
PL1006 SC10	600 W	60 V	10 A	19"-2 HU
PL1012	1 000 W	120 V	50 A	19"-2 HU
PL1024	1 000 W	240 V	20 A	19"-2 HU
PL1040	1 000 W	400 V	16 A	19"-2 HU
PL1506	1 500 W	60 V	150 A	19"-2 HU
PL1506 SC15	900 W	60 V	15 A	19"-2 HU
PL1512	1 500 W	120 V	80 A	19"-2 HU
PL1524	1 500 W	240 V	30 A	19"-2 HU
PL1540	1 500 W	400 V	25 A	19"-2 HU

## ZSAC AC Loads

- DC + AC mode from 40Hz to 700Hz
- Variable crest factor combined with phase shift
- Programmable waveform
- Generation of harmonics
- Also for 3-Phase systems



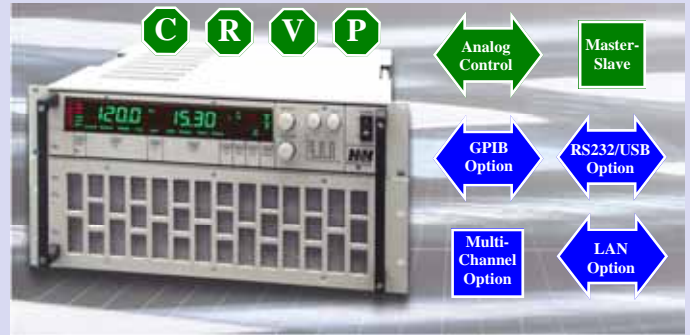
Model	Power	Voltage	Current	Dimensions
ZSAC426	400 W	260 V	6 A	19"-2 HU
ZSAC444	400 W	440 V	3 A	19"-2 HU
ZSAC1426	1 400 W	260 V	10 A	19"-5 HU
ZSAC1444	1 400 W	440 V	5 A	19"-5 HU
ZSAC2826	2 800 W	260 V	20 A	19"-5 HU
ZSAC2844	2 800 W	440 V	10 A	19"-5 HU
ZSAC4226	4 200 W	260 V	30 A	19"-5 HU
ZSAC4244	4 200 W	440 V	15 A	19"-5 HU
ZSAC5626	5 600 W	260 V	40 A	19"-8 HU
ZSAC5644	5 600 W	440 V	20 A	19"-8 HU
ZSAC7026	7 000 W	260 V	50 A	19"-8 HU
ZSAC7044	7 000 W	440 V	25 A	19"-8 HU
ZSACRV8426	8 400 W	50-260 V	60 A	19"-8 HU
ZSAC8444	8 400 W	440 V	30 A	19"-8 HU
ZSACRV9826	9 800 W	50-260 V	70 A	19"-11 HU
ZSAC9844	9 800 W	440 V	35 A	19"-11 HU
ZSACRV11226	11 200 W	50-260 V	80 A	19"-11 HU
ZSAC11244	11 200 W	440 V	40 A	19"-11 HU
ZSACRV12626	12 600 W	50-260 V	90 A	19"-11 HU
ZSAC12644	12 600 W	440 V	45 A	19"-11 HU
ZSACRV14026	14 000 W	50-260 V	100 A	19"-14 HU
ZSAC14044	14 000 W	440 V	50 A	19"-14 HU
ZSACRV15444	15 400 W	50-440 V	55 A	19"-14 HU
ZSACRV16844	16 800 W	50-440 V	60 A	19"-14 HU
ZSACRV18244	18 200 W	50-440 V	65 A	19"-17 HU
ZSACRV19644	19 600 W	50-440 V	70 A	19"-17 HU
ZSACRV21044	21 000 W	50-440 V	75 A	19"-17 HU



## ZSLV Low Voltage Loads

- Especially designed for fuel cell testing
- High current at lowest input voltages
- Up to 2250A at 200mV input voltage

Model	Power	Voltage	Current	Dimensions
ZSLV1002	1 000 W	20 V	220 A @ 150 mV	19"-5 HU
ZSLV1502	1 500 W	20 V	500 A @ 150 mV	19"-5 HU
ZSLV2002	2 000 W	20 V	750 A @ 175 mV	19"-5 HU
ZSLV4002	4 000 W	20 V	1 500 A @ 200 mV	19"-8 HU
ZSLV6002	6 000 W	20 V	2 250 A @ 200 mV	19"-11 HU



## PMLI Multiload

- Up to 12 channels in 19"-2HU
- User defined configuration, max. 1800W
- Modules with 150W, 300W, 450W, 600W
- GPIB+RS232 Interface, SCPI, measuring funct.
- Analog control input, monitor outputs
- With slave-units up to 120 channels

Model	Description
PMLI-M	PMLI Master-Unit with GPIB- + RS232- + PMLI Systembus Interface
PMLI-S	PMLI Slave-Unit with Systembus Interface
SLOT4	Cooler Module with 4 empty slots
MLxx	Load Module see table on the right

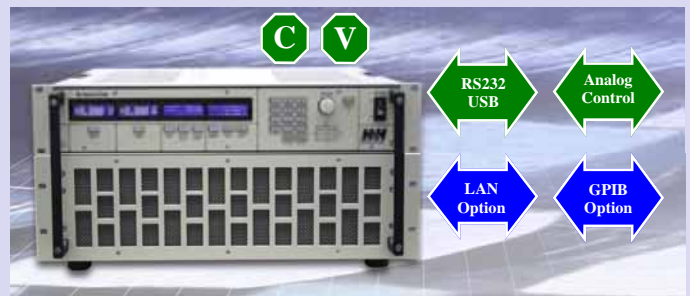


Model	Power	Voltage	Current	Slots
M15-06	150 W	60 V	20 A	1
M15-12	150 W	120 V	10 A	1
M15-24	150 W	240 V	4.5 A	1
M30-06	300 W	60 V	40 A	2
M30-12	300 W	120 V	20 A	2
M30-24	300 W	240 V	9 A	2

Model	Power	Voltage	Current	Slots
M45-06	450 W	60 V	60 A	1
M45-12	450 W	120 V	30 A	1
M45-24	450 W	240 V	13.5 A	1
M60-06	600 W	60 V	80 A	2
M60-12	600 W	120 V	40 A	2
M60-24	600 W	240 V	18 A	2

## NL Source-Sinks

- 2- or 4-Quadrant units available
- Constant voltage - constant current
- RS232 + USB Interface
- Variable limitations
- High dynamic rating
- 2-Quadrant versions operate from -1V
- Extensive software tools



Unipolar Version (2-Quadrant)				
Model	Voltage	Current	Power	Dimensions
NL1V10C20	10 V	±20 A	200 W	19"-2 HU
NL1V20C10	20 V	±10 A	200 W	19"-2 HU
NL1V30C8	30 V	±8 A	240 W	19"-2 HU
NL1V42C6	42 V	±6 A	252 W	19"-2 HU
NL1V80C3	80 V	±3 A	240 W	19"-2 HU
NL1V100C2	100 V	±2 A	200 W	19"-2 HU
NL1V8C80	8 V	±80 A	640 W	19"-5 HU
NL1V10C60	10 V	±60 A	600 W	19"-5 HU
NL1V20C40	20 V	±40 A	800 W	19"-5 HU
NL1V26C30	26 V	±30 A	780 W	19"-5 HU
NL1V44C20	44 V	±20 A	880 W	19"-5 HU
NL1V80C10	80 V	±10 A	800 W	19"-5 HU
NL1V8C160	8 V	±160 A	1 280 W	19"-8 HU
NL1V10C120	10 V	±120 A	1 200 W	19"-8 HU
NL1V20C80	20 V	±80 A	1 600 W	19"-8 HU
NL1V26C60	26 V	±60 A	1 560 W	19"-8 HU
NL1V44C40	44 V	±40 A	1 760 W	19"-8 HU
NL1V80C20	80 V	±20 A	1 600 W	19"-8 HU
NL1V8C240	8 V	±240 A	1 920 W	19"-11 HU
NL1V10C180	10 V	±180 A	1 800 W	19"-11 HU
NL1V20C120	20 V	±120 A	2 400 W	19"-11 HU
NL1V26C90	26 V	±90 A	2 340 W	19"-11 HU
NL1V44C60	44 V	±60 A	2 640 W	19"-11 HU
NL1V80C30	80 V	±30 A	2 400 W	19"-11 HU
NL1V8C320	8 V	±320 A	2 560 W	19"-14 HU
NL1V10C240	10 V	±240 A	2 400 W	19"-14 HU
NL1V20C160	20 V	±160 A	3 200 W	19"-14 HU
NL1V26C120	26 V	±120 A	3 120 W	19"-14 HU
NL1V44C80	44 V	±80 A	3 520 W	19"-14 HU
NL1V80C40	80 V	±40 A	3 200 W	19"-14 HU

Bipolar Version (4-Quadrant)				
Model	Voltage	Current	Power	Dimensions
NL10V10C10	±10 V	±10 A	100 W	19"-2 HU
NL20V20C5	±20 V	±5 A	100 W	19"-2 HU
NL30V30C3.5	±30 V	±3.5 A	105 W	19"-2 HU
NL50V50C2	±50 V	±2 A	100 W	19"-2 HU
NL8V8C46	±8 V	±46 A	368 W	19"-5 HU
NL10V10C38	±10 V	±38 A	380 W	19"-5 HU
NL20V20C24	±20 V	±24 A	480 W	19"-5 HU
NL30V30C16	±30 V	±16 A	480 W	19"-5 HU
NL44V44C11	±44 V	±11 A	484 W	19"-5 HU
NL8V8C80	±8 V	±80 A	640 W	19"-8 HU
NL10V10C60	±10 V	±60 A	600 W	19"-8 HU
NL20V20C40	±20 V	±40 A	800 W	19"-8 HU
NL30V30C32	±30 V	±32 A	960 W	19"-8 HU
NL44V44C20	±44 V	±20 A	880 W	19"-8 HU
NL8V8C120	±8 V	±120 A	960 W	19"-11 HU
NL10V10C90	±10 V	±90 A	900 W	19"-11 HU
NL20V20C60	±20 V	±60 A	1 200 W	19"-11 HU
NL30V30C48	±30 V	±48 A	1 440 W	19"-11 HU
NL44V44C30	±44 V	±30 A	1 320 W	19"-11 HU
NL8V8C160	±8 V	±160 A	1 280 W	19"-14 HU
NL10V10C120	±10 V	±120 A	1 200 W	19"-14 HU
NL20V20C80	±20 V	±80 A	1 600 W	19"-14 HU
NL30V30C64	±30 V	±64 A	1 920 W	19"-14 HU
NL44V44C40	±44 V	±40 A	1 760 W	19"-14 HU



# PSLO System

- Source-Sink for power higher than 3kW for testing accumulators, ultracaps, etc. consisting of power supply and electronic load
- User defined power supplies and loads up to 600V/600A can be combined
- With data acquisition system
- Source-Sink control software
- Configurable according to customer requirements



## Standard Features

**C**

Constant Current

**R**

Constant Resistance

**V**

Constant Voltage

**P**

Constant Power



With analog control input and monitoring output for voltage and current



Depending on model, the unit can be overloaded in power



Parallel operation in Master-Slave-Mode possible



RS232 and USB interface are standard



GPIB and RS232 interface are standard

## Optional Features



GPIB interface option available



RS232 interface option available



RS232 + USB interface option available



Ethernet Option available



Zero-Volt-Option for loading to short circuit available



System interface for multichannelled systems available



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