

## Ultra-High Stability DC Power Supply

### MODEL 62075H-30N

#### Key Features :

- Power range : 7.5kW
- Voltage range: 0 ~ 30V
- Current range: 0 ~ 250A
- High power density (7.5KW in 4U)
- Easy Master/Slave parallel operation up to 30V/750A
- Easy Master/Slave series operation up to 60V/250A
- Current stability : 2.5mA(10ppm)
- High-resolution current programming & Measurement: 20bit DAC/24bit ADC
- Current Slew Rate Control
- Output current waveform digitizing
- OVP, Current Limit, Thermal protection
- Standard USB Interface
- Optional Ethernet/LXI interface
- Safety interlock & Remote inhibit control (I/P)
- Magnet power supply application
- CE Certified



## ULTRA-HIGH STABILITY DC POWER SUPPLY MODEL 62075H-30N

Chroma's new 62075H-30N of ultra-high stability DC power supply offers many unique advantages for magnet power supply system in synchrotron application. These advantages include excellent current stability of 1.25mA/0.5 hour and 2.5mA/8 hour, extremely low current ripple of 2.5mA, current reproducible within 10mA, precision setting and readback of output current via 20 bit DAC/24 bit ADC.

The 62075H-30N output power has maximum 7.5kW/30V/250A power module designed with 4U height that can be connected easily as master or slave with three units to 22.5kW/30V/750A in parallel or two units to 15kW/60V/250A in series and operated as a standalone unit via system bus.

The 62075H-30N provides stable DC output current source and power for precision measurement. It offers an advanced 250A/30V ultra high-stable  $\pm 10$  ppm (current stability  $\pm 1.25$  mA) with high efficiency and high power factor in compliance with energy savings. In addition it has a 20 bit digital control with bright vacuum fluorescent display readout.

The 62075H-30N ultra-high stability power supply is very easy to operate from either the front panel keypad or the remote controller via USB (standard) and Ethernet/LXI (optional). Its compact size with 4U only can be used on a bench or installed in a standard rack without any difficulty.

The features of the 62075H-30N includes current mode with dual loops control. It is able to provide a stable and fast output response providing excellent protection for different load variations.

The self-diagnosis routine and full protections against voltage phase loss, over/under voltage at input, over voltage/current at output, over power, over temperature, fan fail and remote inhibit ensure the quality and reliability for even the most demanding magnet power supply system in synchrotron.

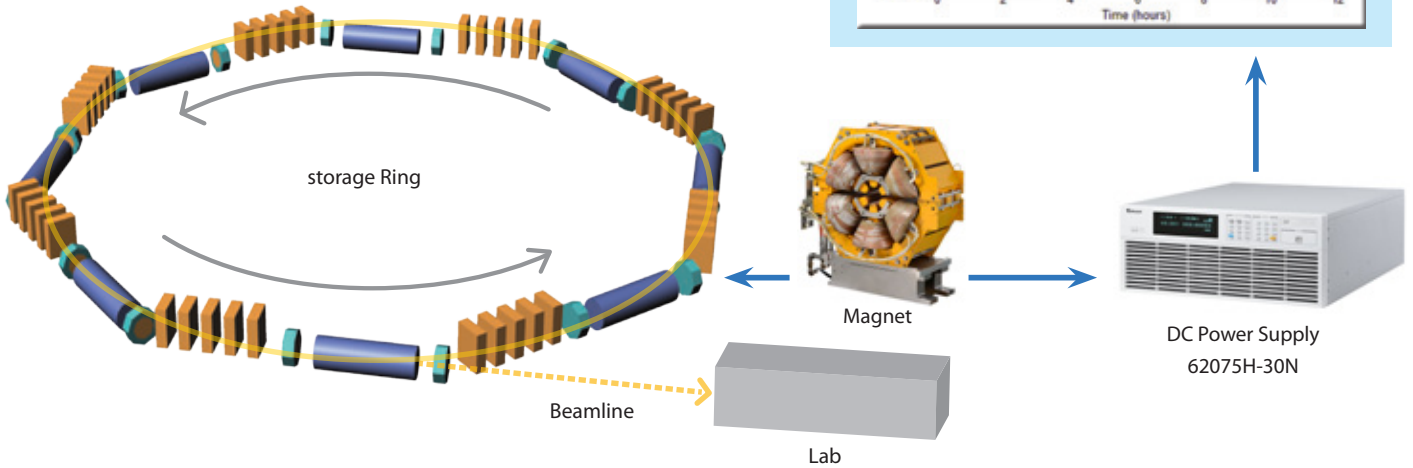


# Chroma



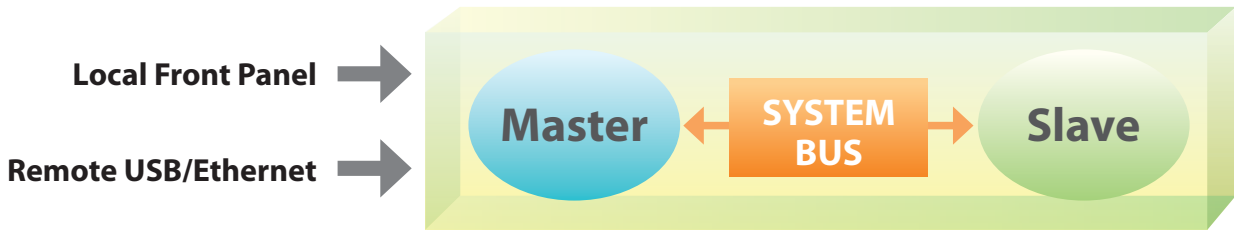
## HIGH-PRECISION DC CURRENT WITH ULTRA HIGH STABILITY

The 62075H-30N offers a high power density envelop of 7.5kW in 4U that delivers high-precision DC current with ultra high stability 10ppm and extremely low output ripple, excellent line and load regulation, and fast transient response. With the combination of wide range of voltage (0-60V) and current (0-750A), this power supply is ideal for storage ring quadrupole and sextupole magnets in synchrotron application.



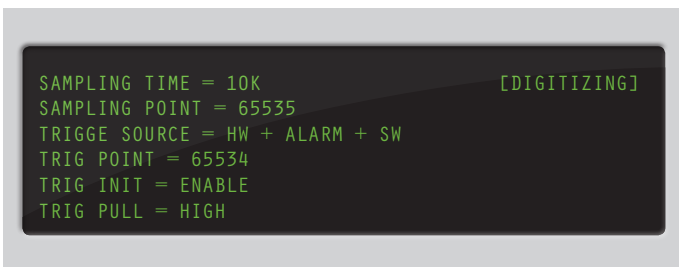
## MASTER / SLAVE PARALLEL AND SERIES OPERATION AS STANDALONE UNIT

When high power is required, it is common to connect two or more power supplies in parallel or series. The 62075H-30N supply has a smart Master / Slave control mode making series/parallel operation fast and simple. In this mode, the master scales values and downloads data to slave units that makes programming simple and power control run automatically.

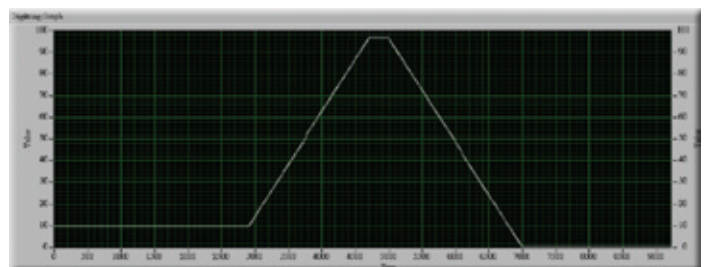


## REMOTE CONTROL AND DIGITIZING TRIGGER DATA

The 62075H-30N provides a digitizing function to record the transient current waveform via remote USB and Ethernet interface. It can set the output current level and digitized parameters following the sample time, sample point, trigger source and trig point, etc. The power supply saved data function can be used easily to detect errors and prompt warning message when the operation stops.

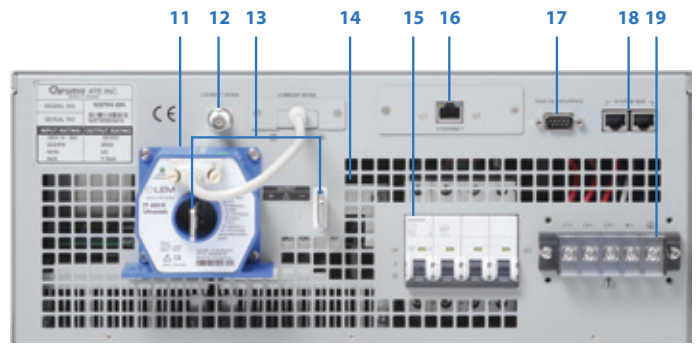
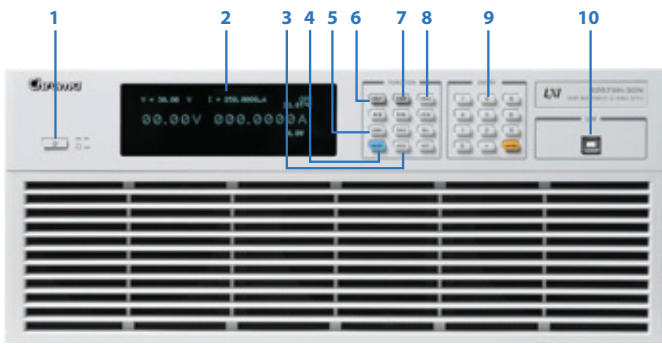


Digitizing Function



Record Data via Software

## PANEL DESCRIPTION



- 1. POWER Switch**
- 2. VFD Display**  
Display setting, readings and operating status
- 3. LOCK Key**  
Lock all settings
- 4. OUTPUT Key**  
Enable or disable the output
- 5. CONFIG Key**  
Set the system configuration
- 6. VOLTAGE Key**  
Set the output voltage
- 7. CURRENT Key**  
Set the output current
- 8. PROG Key**  
Set the waveform editing
- 9. NUMERIC Key**  
Set the data
- 10.USB interface port**

- 11. DCCT**  
Current transducer device
- 12. BNC Connector**  
Analog output 0-10V for current measurement
- 13. OUTPUT Terminal**  
Connect the output cable to a UUT
- 14. System Fan**  
With fan speed control
- 15. Input AC Breaker**
- 16. ETHERNET Interface**
- 17. Analog interface**  
Digital signal I/O
- 18. System Bus**  
For master/slave parallel and series control
- 19. AC Input Terminal**

## ELECTRICAL SPECIFICATIONS

Model	62075H-30N
<b>Output Ratings</b>	
Output Voltage	30V max.
Output Current <sup>*1</sup>	0~250A
Output Power	7500W
<b>Line Regulation</b>	
Current	± 5mA
<b>Voltage Measurement</b>	
Range	0~30V
Accuracy	± 20mV
<b>Current Measurement</b>	
Range	0~250A
Accuracy	± 10mA
<b>Output Ripple</b>	
Current Ripple (P-P) <sup>(1 ~ 1kHz)</sup>	± 2.5 mA
<b>OVP Protection</b>	
Range	0 ~ 110% Programmable
Accuracy	± 1% of full scale output
<b>Slew Rate Control</b>	
Current slew rate range	0.001A/ms ~ 0.1A/ms
<b>Efficiency</b>	
	0.85%
<b>Stability <sup>*2</sup></b>	
Current (0~30 minutes)	± 1.25 mA (5ppm)
Current (0~8 hours)	± 2.5 mA (10ppm)
<b>Programming &amp; Measurement Resolution</b>	
Current programming	20 bits ± 1LSB
Current measurement	24 bits ± 1LSB
Voltage measurement	16 bits ± 1LSB

**Note \*1:** The operating output current range that complies with the specification is 20 ~ 250A.

**Note \*2:** The test condition of output specification is the power supply ON over 2 hours, load = 14.3mH/76.28 mohm or 26mH/82.52mohm.

## GENERAL SPECIFICATIONS

Model	62075H-30N
<b>Remote Interface</b>	
Ethernet Interface	Optional
USB Interface	Standard
System bus	Standard for master/slave control
<b>Programming Accuracy<sup>*2</sup></b>	
Current	± 10 mA
<b>Programming Response Time</b>	
Load setting	Ethernet send command to DC source receiver <20ms
Measure V&I	Under Ethernet command using Measure <25ms
<b>System Interface (I/O)</b>	
Current monitor output (O/P)	0~10Vdc
System Fault Indicator(O/P)	TTL: Active High
Safety interlock (I/P)	Time accuracy: <100ms
Remote inhibit (I/P)	TTL: Active High
<b>Series &amp; Parallel Operation</b>	
Series: two units / Parallel: three units	
<b>Sine Wave Programming</b>	
Frequency range	0.1 ~ 20.0Hz
Amplitude	0 ~ 4A
OFFSET range	5 ~ 248A
<b>Digitizing Current Waveform Data</b>	
Sampling time	1k/2k/4k/5k/10k
Sampling point	2 ~ 65535
Trigger source	SW/ALARM/HW
<b>Input Specification</b>	
AC input voltage 3phase, 4 wire + ground	380Vac (operating range 342 ~ 418 Vac)
AC frequency range	47 ~ 63Hz
Max current (each phase)	17.5A
AC input voltage relative phase asymmetry factor	± 1.5%
<b>General Specification</b>	
Storage temperature range	0°C ~ 50°C
Operating temperature range	25°C ± 2°C
Relative humidity	30% to 90%
Dimension (HxWxD)	177mm x 428mm x 590mm / 6.97 x 16.85 x 23.23 inch
Weight	Approx. 34kg / 74.96 lbs

**Note \*1:** The operating output current range that complies with the specification is 20 ~ 250A.

**Note \*2:** The test condition of output specification is the power supply ON over 2 hours, load = 14.3mH/76.28 mohm or 26mH/82.52mohm.

All specifications are subject to change without notice.

## ORDERING INFORMATION

**62075H-30N** : Ultra High Stability DC Power Supply 30V/250A/7.5kW

**Option** : Ethernet/LXI Interface for 62075H-30N

**Option** : Rack Mounting Kit for 62075H-30N

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