

Technical Data

Bidirectional Inverter HYCon-Line

HYCon 10		70	140	210	280	350	420
AC Side							
Voltage range (Phase-Phase) (1)	V	200 - 400 ($\pm 10\%$)					
Frequency	Hz	50 / 60					
Power @ 400 V (Phase-Phase)	kW	70	140	210	280	350	420
Rated current @ 40°C	A	100	200	300	400	500	600
DC Side							
Charging Voltage Range @ V _{NAC}	V	1,51 x V _{AC} - 885					
Maximum current @ 40°C	A	110	220	330	440	550	660
Maximum number of DC connections	-	1	2	3	4	5	6
General Information							
Weight (1)	kg	290	580	870	1160	1450	1740
Width	mm	550	1100	1650	2200	2750	3300
Height		2200					
Depth		825					
Air Flow	m ³ /h	700	1400	2100	2800	3500	4200
Standby consumption	W	50	100	150	200	250	300

HYCon 30		200	400	600	800	1000	1200
AC Side							
Voltage range (Phase-Phase) (1)	V	200 - 400 ($\pm 10\%$)					
Frequency	Hz	50 / 60					
Power @ 400 V (Phase-Phase)	kW	200	400	600	800	1000	12000
Rated current @ 40°C	A	290	580	870	1160	1450	1740
DC Side							
Charging Voltage Range @ V _{NAC}	V	1,51 x V _{AC} - 885					
Maximum current @ 40°C	A	325	650	975	1300	1625	1950
Maximum number of DC connections	-	1	2	3	4	5	6
General Information							
Weight (1)	kg	350	700	1050	1400	1750	2100
Width	mm	550	1100	1650	2200	2750	3300
Height		2200					
Depth		825					
Air Flow	m ³ /h	850	1700	2550	3400	4250	5100
Standby consumption	W	110	220	330	440	550	660

HYCon 2.30		400	800	1200
AC Side				
Voltage range (Phase-Phase) (1)	V	200 - 400 ($\pm 10\%$)		
Frequency	Hz	50 / 60		
Power @ 400 V (Phase-Phase)	kW	400	800	1200
Rated current @ 40°C	A	580	1160	1740
DC Side				
Charging Voltage Range @ V _{NAC}	V	1,51 x V _{AC} - 885		
Maximum current @ 40°C	A	650	1300	1950
Maximum number of DC connections	-	1	2	3
General Information				
Weight (1)	kg	570	1140	1710
Width	mm	1100	2200	3300
Height		2200		
Depth		825		
Air Flow	m ³ /h	1700	3400	5100
Standby consumption	W	110	220	330

Common Data

HYCon-Line

AC Side

Over voltage protection	-	Surge arrester type II (Optional)
Switch	-	AC load break switch
Anti Islanding protection	-	Yes with automatic disconnection
Other protection	-	AC short circuits and overloads (fuses)
Type of connection	-	Copper bars
Power factor	-	> 0,99 at Rated Power and Rated Voltage
Total harmonic distortion	%	< 3

Efficiency

Maximum efficiency	%	98,5
Euro Efficiency	%	98

DC Side

Over voltage protection	-	Surge arrester type II
Switch	-	DC load break switch
Other protection	-	Insulation monitoring system
Type of connection	-	Copper bars
Type of storage (2)	-	LA, Lithium, Flow Batteries

Auxiliary power

Auxiliary supply from UPS	V	230
Auxiliary supply voltage range	-	195 - 253

General Information

Protection class	-	IP 20
Operating temperature range (3)	°C	-10 ÷ + 40
Cooling system	-	Forced air
Maximum altitude a.s.l (4)	m	4500 (for installation over 1000 m, please contact FRIEM)

Interfaces

Local user interface	-	Touch screen display (Optional)
Communication protocol	-	Modbus RTU or TCP/IP
PC communication port	-	RS232 - RS485
Remote communication port	-	Ethernet

Standards

Product standard	-	2004/108/EC - 2006/95/EC - CEI EN 62109-1 (2010) - CEI EN 62109-2 (2012) - IEC 60730 (2010)
EMC	-	EN 61000 - 6 - 2 / EN 61000 - 6 - 4
Euro Efficiency		IEC 61683: 1999-11

Functions

Grid Support Functions	-	On-Demand Production, Ramp Rate Control, Frequency Regulation, Active Power Reserve, Energy Time Shifting, Peak Shaving, Reactive Compensation, Power Factor Control, Automatic Voltage Regulation, Voltage Drop Control, Black Start Capability, Power Stability
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Note: Specifications are subject to change without notice, please contact FRIEM

(1) without integrated LV/LV transformer

(2) for other technologies, please contact FRIEM

(3) no de-rating up to 40°C ; 1,5% de-rating per degree in temperature

(4) de-rating over 1000m

Technical Data

DC/DC Bidirectional Converter HYCon D-Line

HYCon D84		1	2	3	
STEP-DOWN MODE	DC Input				
	Voltage range	V	1,1 x V _{MAXOUT} ÷ 885		
	DC Output				
	Voltage Range	V	120 ÷ V _{minIN} / 1,1		
	Maximum Current	A	84	168	252
	Max. DC Ripple (pk-pk)	%	< 3 (@ Max. DC Voltage)		
	Efficiency				
Maximum efficiency	%	99			
STEP-UP MODE	DC Input				
	Voltage range	V	120 ÷ V _{minOUT} / 1,1		
	Maximum Current	A	84	168	252
	DC Output				
	Voltage Range	V	1,1 x V _{MAXIN} ÷ 885		
	Max. DC Ripple (pk-pk)	%	< 3 (@ Max. DC Voltage)		
	Efficiency				
	Maximum efficiency	%	99		
	Weight & Air Flow				
	Weight	kg	180	210	240
Air flow	m3/h	700			
HYCon D168		1	2	3	
STEP-DOWN MODE	DC Input				
	Voltage range	V	1,1 x V _{MAXOUT} ÷ 885		
	DC Output				
	Voltage Range	V	120 ÷ V _{minIN} / 1,1		
	Maximum Current	A	168	336	504
	Max. DC Ripple (pk-pk)	%	< 3 (@ Max. DC Voltage)		
	Efficiency				
Maximum efficiency	%	99			
STEP-UP MODE	DC Input				
	Voltage range	V	120 ÷ V _{minOUT} / 1,1		
	Maximum Current	A	168	336	504
	DC Output				
	Voltage Range	V	1,1 x V _{MAXIN} ÷ 885		
	Max. DC Ripple (pk-pk)	%	< 3 (@ Max. DC Voltage)		
	Efficiency				
	Maximum efficiency	%	99		
	Weight & Air Flow				
	Weight	kg	220	250	290
Air flow	m3/h	850			

Common Data

HYCon D-Line

DC Protections & Switching

Over voltage protection	-	Surge arrester type II (Optional)
Switch	-	DC load break switch
Other protection	-	Insulation monitoring system (Optional)

Auxiliary power

Auxiliary supply from UPS	-	230
Auxiliary supply voltage range	-	195 - 253
Standby consumption	W	50

General Information

Dimension (WxHxD)	mm	550x2200x825
Protection class	-	IP 20
Operating temperature range (1)	°C	-10 ÷ + 40
Cooling system	-	Forced air
Maximum altitude a.s.l (2)	m	4500 (for installation over 1000 m, please contact FRIEM)

Interfaces

Local user interface	-	Touch screen display (Optional)
Communication protocol	-	Modbus RTU or TCP/IP
PC communication port	-	RS232 - RS485
Remote communication port	-	Ethernet

Standards

Product standard	-	2004/108/EC - 2006/95/EC - CEI EN 62109-1 (2010) - CEI EN 62109-2 (2012) - IEC 60730 (2010)
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Note: Models available with MPPT features

(1) no de-rating up to 40°C ; 1,5% de-rating per degree in temperature

(2) de-rating over 1000m