

STARCLUSTER

Family Lamp Driver Ballast

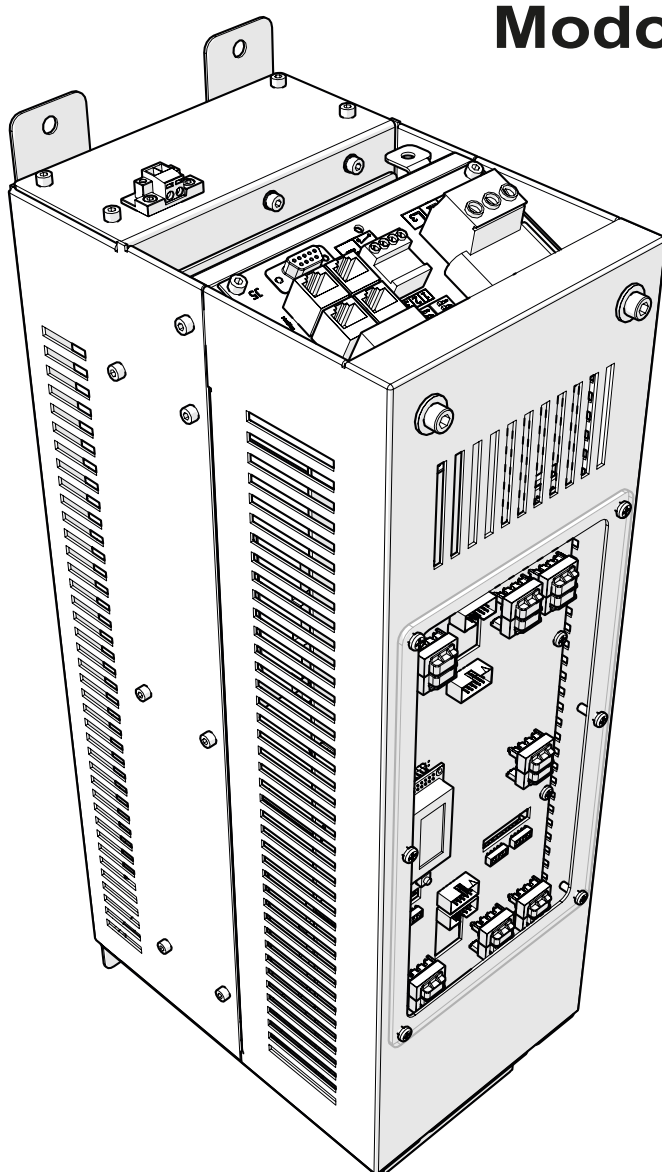
IT

EN

Modo di funzionamento

Operating mode

MODE_1



Modelli / Model

HUCA, HMNA, HMDA,
HMXA, HMHA, HMXW;
HMGA, HLTA, HVTA;
HMSA, HMXA, HMHA;
HMGA



C - MODE_1

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C.1 - Descrizione generale

La modalità MODE_1 è il funzionamento base del STARCLUSTER e permette di far funzionare il dispositivo STARCLUSTER con segnali analogici e digitali controllati dal PLC.

L'interfaccia operativa avviene tramite la scheda I/O CPU, vedere esempi di collegamento nelle pagine seguenti. Il funzionamento MODE_1 supporta anche la connessione alla rete ModBus RS485 in modalità di sola lettura.

IMPOSTAZIONE SOFTWARE FUNZIONAMENTO MODE_1

Per selezionare la modalità di funzionamento utilizzare la tastiera HA2LD

C.1 - General description

MODE_1 is STARCLUSTER's basic operating mode and allows the STARCLUSTER device to operate with analog and digital signals controlled by the PLC.

Operating interface is obtained by means of the CPU I/O board. See connection examples on the following pages. Operating MODE_1 also supports connection to the ModBus RS485 network in the read only mode.

MODE_1 OPERATION SOFTWARE SETUP

Use the HA2LD keyboard to select the operating mode

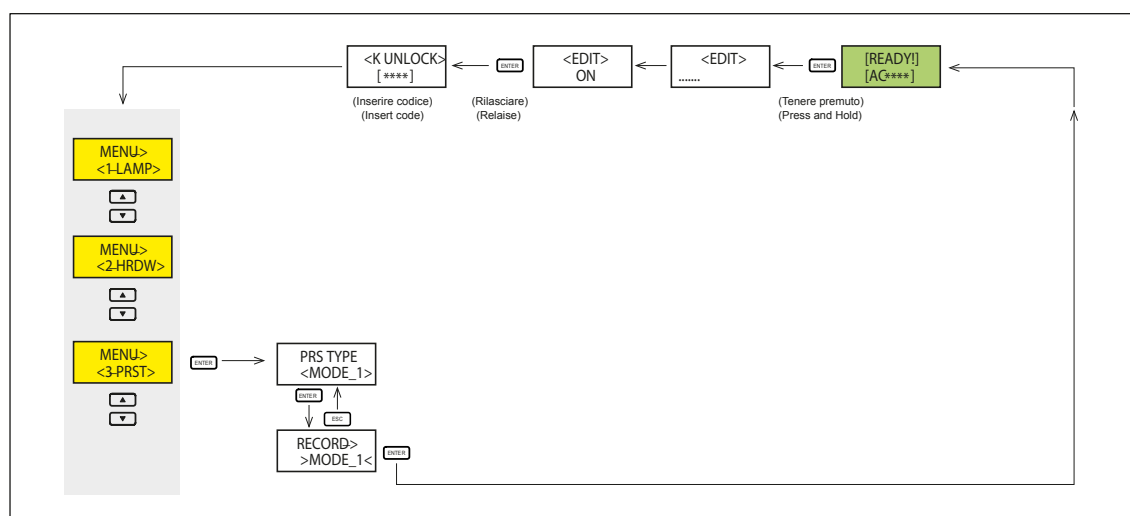


Fig.1

C.2 - Impostazione hardware funzionamento MODE_1

Impostare il dip swicht presente sulla scheda I/O CPU come la seguente tabella

C.2 - MODE_1 OPERATION HARDWARE SETUP

Set the dip switches on the CPU I/O board as shown in the table below

I/O CPU v.53			
Dip S1	SELECTION		
1	ON	OA2 (Analog Output 0-10V)	(Current Feed Back)
2	ON	OA1 (Analog Output 0-10V)	(Voltage Feed Back)
3	ON	OA0 (Analog Output 0-10V)	(Lamp Blower Speed) (Optional)
4	OFF		

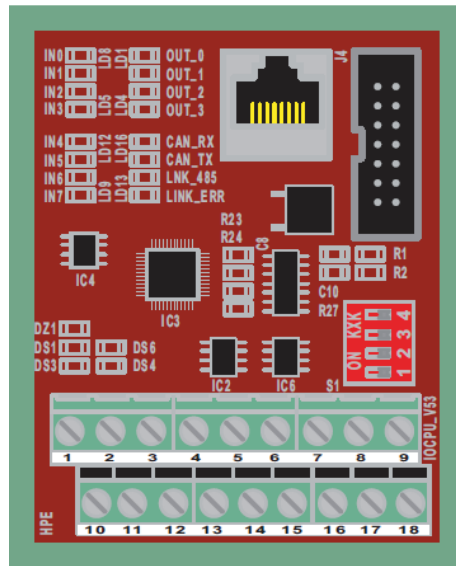


Fig.2

J4	RJ45 Can Connector.
J2 (TB1)	18pin 2x9 two planes screw terminal block
JP1	Renesas programmer connector

S1 Preset Function selector			
Dip	J2 position	Position	
		On	Off
1	J2-6	OutA[2] (Analog Output 0-10V)	InD[5] (digital Input)
2	J2-7	OutA[1] (Analog Output 0-10V)	InD[6] (digital Input)
3	J2-8	OutA[0] (Analog Output 0-10V)	InD[7] (digital Input)
4	J2-14/15	Rs 485 120R line terminator	

IO Ratings											
J2	NAME	Type	Voltage Range	Selector	V-L Volt "0"	V-H Volt "1"	Vi-H Abso- lute V	I in/out Nomi- nal ma	I-pik ma	Note	Ref
1	InD[0]	Dig-IN	0-15	Auto	<5	24	30 *(1)	2.4 *(3)			GND
	/	/	/					1.0 *(4)			
2	InD[1]	Dig-IN	0-15	Auto	<5	24	30 *(1)	2.4 *(3)			GND
	/	/	/					1.0 *(4)			
3	InD[2]	Dig-IN	0-15		<5	24	30 *(1)	2.4 *(3)			GND
4	InD[3]	Dig-IN	0-15		<5	24	30 *(1)	2.4 *(3)			GND
5	InD[4]	Dig-IN	0-15		<5	24	30 *(1)	2.4 *(3)			
6	InD[5]	Dig-IN	0-15	S1-1	<5	24	30 *(1)	2.4 *(3)			GND
	/	/	/					5			
7	InD[6]	Dig-IN	0-15	S1-2	<5	24	30 *(1)	3			GND
	/	/	/					5			
8	InD[7]	Dig-IN	0-15	S1-3	<5	24	30 *(1)				GND
	/	/	/					5			
9	+12*(5)	Ref-Out	12(+/-0.5)		11.5	12.5		10	15 *(1)		GND
10	OutD[0]	Dig-Out	0-15V		<2	>12	24V	20	75 *(1)		GND
11	OutD[1]	Dig-Out	0-15V		<2	>12	24V	20	75 *(1)		GND
12	OutD[2]	Dig-Out	0-15V		<2	>12	24V	20	75 *(1)		GND
13	OutD[3]	Dig-Out	0-15V		<2	>12	24V	20	75 *(1)		GND
14	RS485A	Note : when RS485 is used the rj45 to Hamal/Sirio cable cannot exceed 15 inch									
15	RS485B	Note : when RS485 is used the rj45 to Hamal/Sirio cable cannot exceed 15 inch									
16	GND										
17	GND										
18	GND										

*(1) exceeding this value will permanently damage the device

*(2) short Circuit protected . Any external sink Voltage applied will permanently damage the device

*(3) input Current at 24V

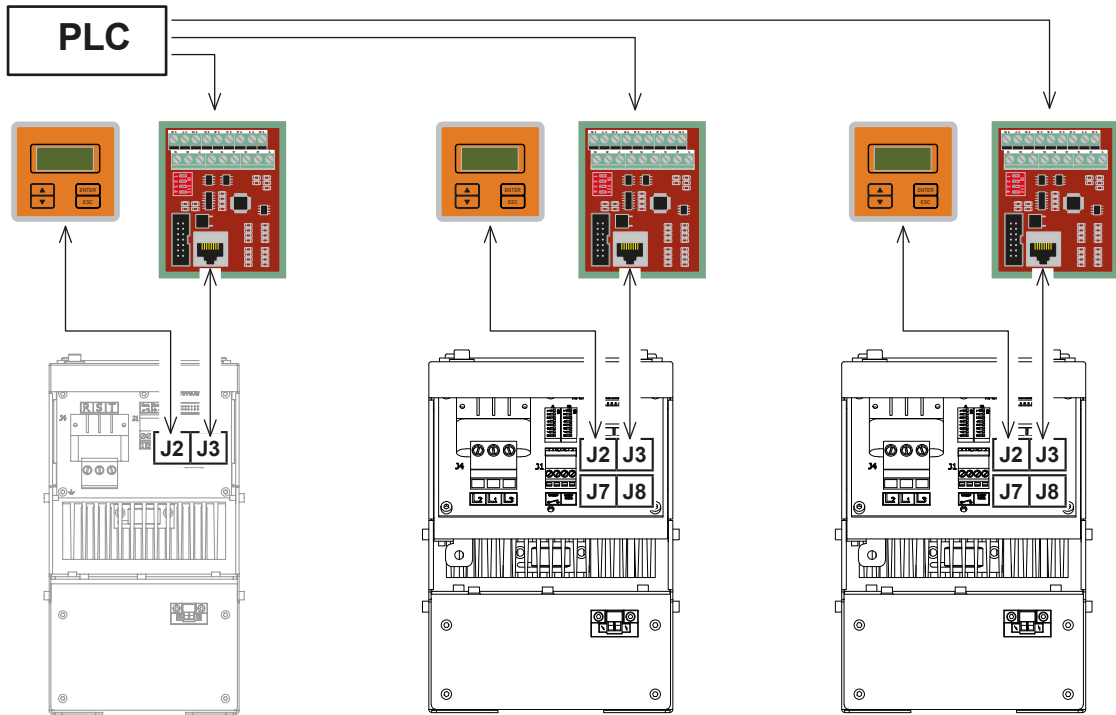
*(4) input Current at 10Vin

*(5) use this output for positive dipole of 10kr potentiometer and input logic "1".

TB	ID	Funct	Type	Description		
1	InA[0]	SETP	0-10V	0-10V power request		
2	InD[1]	STAND-BY	0/1	A logic held "1" will force the machine to standby mode.		
				Parameter selected in:	Preset Value	Range
				[MENU]-> [1-LAMP] -> [STAND-BY]	20%	
3	InD[2]	START	0/1	A logic held "1" ignite the lamp and execute the warm up procedure , One logic "0" will stop any operation		
10	OutD[0]	IGNITED	0/1	A Logic "1" indicates that the ignition stage have been successfully completed		
11	OutD[1]	READY	0/1	A Logic "1" indicates that warm up is terminated. Since now the Ballast will drive the power according with 0-10V placed at InA[0] (SETP)		
12	OutD[2]	FAILURE	0/1	A Logic "1" indicates that one error condition have been found by the ballast diagnostic functions . The 'error type' detailed explanation can be read on ballast display or acquired by plc trough the analog signal on OutA[1]. (Below the error table)		
				When "1"	IGNITED	forced to logic "0"
				READY	forced to logic "0"	
13	OutD[3]	WARNING	0 / 1	A Logic "1" indicates that a warning is in progress		
				When "1"	OVTL	The lamps works at more than 15% of its given voltage, the power supply is dimming the power to avoid serious damaging
				MCHOT	The internal eat-sink temperature is too high , the power supply is reducing the power to avoid serious damaging	
8	OutA[0]	Blower	0-10V	Analog Blower driver (0-10V)		
				Parameter selected in :	Preset Value	Range
				[MENU]->[4-ICPU] ->[BLOWER_H]	5V	1 - 10
7	OutA[1]	Voltage / ErrDecode	0-10V	<i>In the normal operation this output is the feedback of voltage, its end scale is determined by value programmed in the menu on the Ballast.</i>		
				Parameter selected in :	Preset Value	Range
				MENU]->[4-ICPU] -[SCALE_V]	5V	1 - 10
				<i>Whenever any error occurs this output value indicates the type of error</i>		
				0V (0 to 0.5v)	Thermal Protection .	
					This event should never happen . a recursive thermal indication means malfunctioning of cooling system o installation not properly executed .	
					ALLERT!!!! working in this condition will reduce seriously the machine life.	
				1V (0.5 to 1.5)	Low Auxiliary Voltage	
				2V (1.5 to 2.5)	Main Power Failure	
				3V (2.5 to 3.5)	Ignition failed	
				4V (3.5 to 4.5)	Run Time Lamp OFF	
				5V (4.5 to 5.5)	Entry Test Failed	
				6V (5.5 to 6.5)	N.U.	
				7V (6.5 to 7.5)	Ground Leakage protection	
8V (7.5 to 8.5)	N.U.					
9V (8.5 to 9.5)	N.U.					
6	OutA[2]	Current	0-10V	Current Feed Back		
				Parameter selected in :	Preset Value	Range
				MENU]->[4-ICPU] -[SCALE_C]	5V	1-10
16	GND			Negative reference for all signal		
17	GND			Negative reference for all signal		
18	GND			Negative reference for all signal		

Esempio di collegamento di uno o più dispositivi Starcluster

Example of the connection of one or more Starcluster devices



Esempio di collegamento con dispositivo Host ModBus (solo monitoraggio)

Example of connection to the ModBus Host device (monitoring only)

