

DIRECT STARTERS IN IP 65 WATERPROOF OF INSULATING ENCLOSURE

USE

To protect electric motors against overloads

SPECIFICATIONS

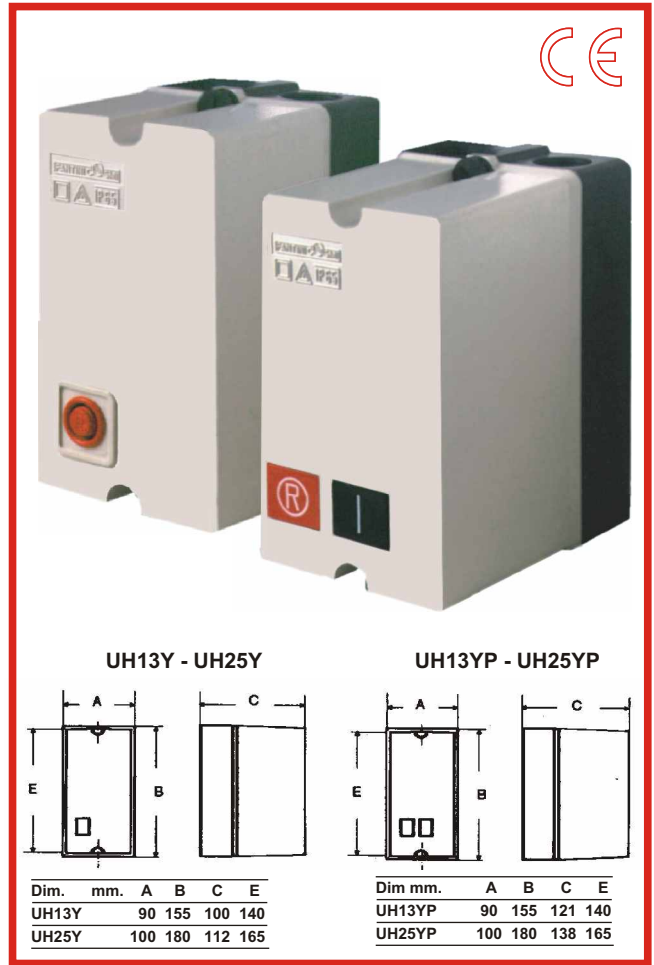
Composed of an HR contactor and a JA25 thermal relay mounted and wired in an enclosure in insulating material, waterproof to IP65. The technical specifications are identical to those of single contactors and thermal relays.

CONTROL COIL CODES

	U	W
50-60 Hz V	220 to 230	380 to 400

THERMAL CALIBRATION CODES Ja25

REGULATION SCALE CODES	PROTECTIVE FUSES (A)	
	aM	gI
A	0.15 to 0.26	0.5 -
B	0.22 to 0.33	0.5 -
C	0.3 to 0.45	1 2
D	0.42 to 0.63	1 2
E	0.6 to 0.9	2 4
F	0.85 to 1.27	2 4
G	1.2 to 1.75	2 4
H	1.7 to 2.6	4 6
I	2.5 to 3.7	6 10
L	3.6 to 5.4	8 16
M	5.3 to 7.5	10 20
N	7.3 to 10.2	12 20
O	10 to 15	16 25
P	13.5 to 20	25 50
Q	18 to 26	40 63



TYPE	Rated thermal current I _{th}	Rated current in Ac3 380V I _e	Controllable powers of three-phase motors in category AC2-AC3			Composition	Unit weight Kg.	Packs of No
			220-240V	380-415V	500V			

DIRECT STARTER WITH RESET BUTTON

HS0910Y □ □	25 A	9 A	2.2 kW 3 HP	4 kW 5.5 HP	5.5 kW 7.5 HP	HR0910 JA25 UH13Y		
HS1310Y □ □	25 A	13 A	3.2 kW 4.5 HP	6 kW 8 HP	8 kW 11 HP	HR1310 JA25 UH13Y		
HS1710Y □ □	40 A	17 A	4 kW 5.5 HP	7.5 kW 10.5 HP	10 kW 14 HP	HR1710 JA25 UH13Y		
HS2510Y □ □	40 A	25 A	6 kW 8 HP	11 kW 15 HP	15 kW 20 HP	HR2510 JA25 UH13Y		

DIRECT STARTER WITH RUN-STOP/RESET BUTTON

HS0910Y □ □ P	25 A	9 A	2.2 kW 3 HP	4 kW 5.5 HP	5.5 kW 7.5 HP	HR0910 JA25 UH13Y		
HS1310Y □ □ P	25 A	13 A	3.2 kW 4.5 HP	6 kW 8 HP	8 kW 11 HP	HR1310 JA25 UH13Y		
HS1710Y □ □ P	40 A	17 A	4 kW 5.5 HP	7.5 kW 10.5 HP	10 kW 14 HP	HR1710 JA25 UH13Y		
HS2510Y □ □ P	40 A	25 A	6 kW 8 HP	11 kW 15 HP	15 kW 20 HP	HR2510 JA25 UH13Y		

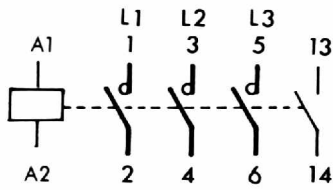
ACCESSORIES

INSULATING IP65 WATERPROOF ENCLOSURES

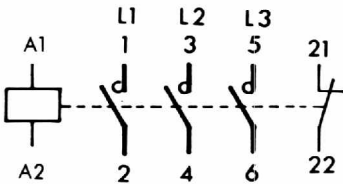
WIRING DIAGRAMS

CONTACTORS

CONTROL EXAMPLES:



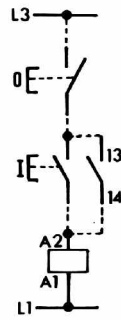
HR..10 HM..10



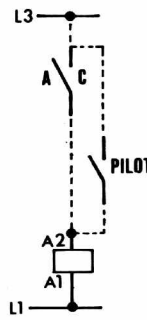
HR..01 HM..01



With Run-Stop switch (or remote pilot)



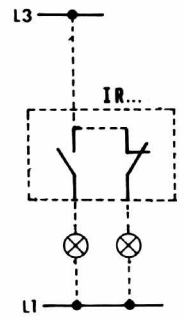
With Run-Stop buttons (only for HR..10)



With pilot and Auto-Continuous switch



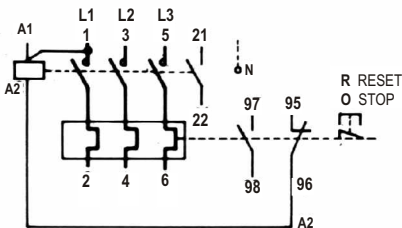
With pilot and Run-Stop switch



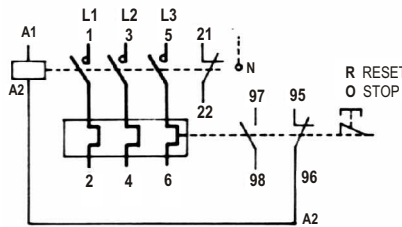
Operation-Stop indication

DIRECT STARTERS (series HS)

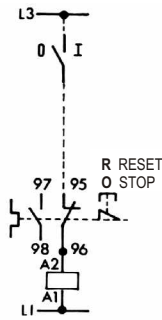
IN WATERPROOF ENCLOSURES IP65 Y



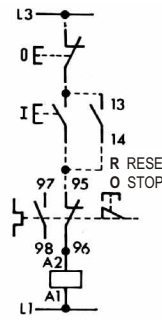
HS..10



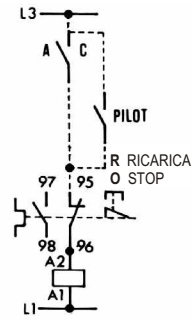
HS..01



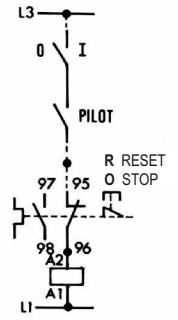
With Run-Stop switch (or remote pilot)



With Run-Stop buttons (only for HR..10)

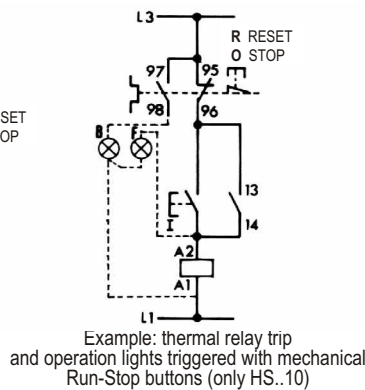
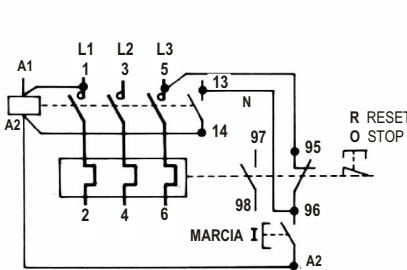


With pilot and Autom-Continuous switch

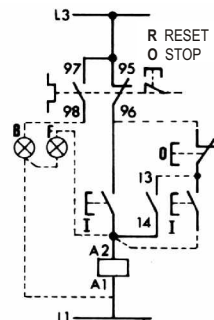


With pilot and Run-Stop switch

IN WATERPROOF ENCLOSURES IP65 WITH RUN-STOP/RESET BUTTONS YP

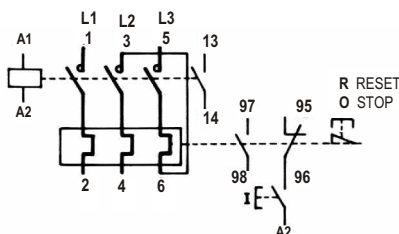


Example: thermal relay trip and operation lights triggered with mechanical Run-Stop buttons (only HS..10)



Control with remote Run-Stop buttons and trip and operation lights trigger (only HS..10)

FOR SINGLE-PHASE LOADS



For single-phase loads, connect two poles of the thermal relay in series to obtain heating of the three bimetals.

USER CATEGORIES

Nature of the current	User categories	Typical applications
Alternating current	AC-1	Non-inductive or low inductive loads, heating element ovens
	AC-2	Slip-ring motors: start up, stop
	AC-3	Cage motors: start up, stop of the motor during running (1)
	AC-4	Cage motors: start-up, reverse-current braking, pulsed switching
	AC-5a	Control of discharge lamps
	AC-5b	Control of incandescent lamps
	AC-6a	Control of transformers
	AC-6b	Control of capacitor batteries
	AC-7a	Light inductive loads in domestic and similar applications
	AC-7b	Motor loads in domestic applications
Direct current	DC-1	Non-inductive or low inductive loads, heating element ovens
	DC-3	Shunt motors: start-up, reverse current braking, pulsed switching. Dynamic braking of direct current motors
	DC-5	Motors in series: start-up, reverse current braking, pulsed switching. Dynamic braking of direct current motors
	DC-6	Control of incandescent lamps

1) Equipment classified in category AC-3 may be used for occasional pulsed switching or reverse current braking, for limited periods such as those relative to positioning the machine. During these limited periods, the number of these operations must not exceed 5 per minute and exceed 10 in a period of 10 minutes.

2) Motors for refrigerator hermetic compressors are a combination composed of motor and compressor enclosed in the same casing without external shaft, as the motor operates immersed in the coolant.

USER CATEGORIES FOR SWITCHING ELEMENTS

Current type	Category	Typical applications
Alternating current	AC-12	Control of resistive loads and solid state loads with isolation obtained with opto-isolators
	AC-13	Control of solid state loads with isolating transformer
	AC-14	Control of small electromagnetic loads (= 72 VA)
	AC-15	Control of electromagnetic loads (> 72 VA)
Direct current	DC-12	Control of resistive loads and solid state loads with isolation obtained with opto-isolators
	DC-13	Control of electromagnets
	DC-14	Control of electromagnetic loads with economizing resistors in the circuit