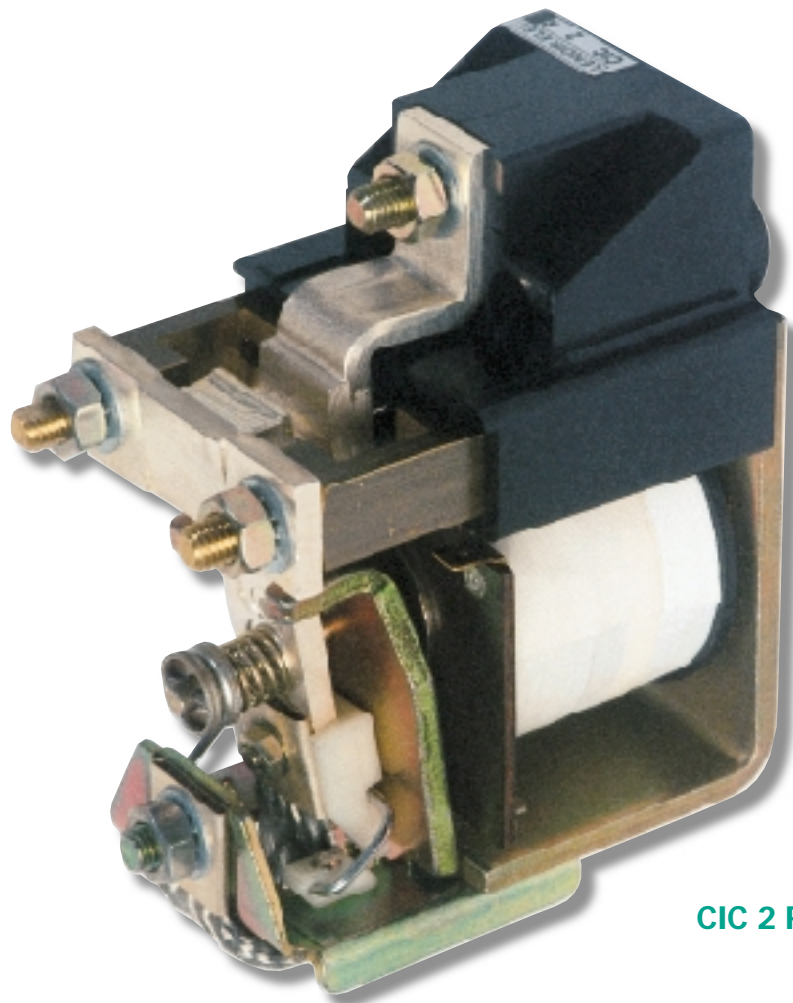


CIC 1 - 2 DC contactors



Contactors for electrical trolleys CIC :

CIC 1D,
CIC 1R,
CIC 1DS,
CIC 1RS,
CIC 2D,
CIC 2R,
CIC 2DS,
CIC 2RS.



CIC 2 R

CIC DC contactors:

- Connecting points that allow a full connection (poles and coil) on the front, making easier the installation of the equipments on the trolley.
- An easy access to all the parts subject to replacement, all located on the front.

They are also equipped with:

- A moving element on blades eliminating premature wear and jamming which allows use of the contactors in cold chamber, without risk of icing the coil core.
- A moving contact control device providing intentional sliding of "NO" and "NC" contacts which increases the reliability of the contactor when the current passes (self-cleaning) and reduces rebounds (reduced risk of welding on closing).

2 versions of CIC contactors are available:

- contactor version = 1 NO contact,
 - reverser version = 1 NO contact + 1 NC contact.
 - It is possible to add one reverser auxiliary contact without any point in common.
 - The contactor closes at 50 % of the nominal voltage which enables the trolleys to join the recharging point even after a long time of operation.
 - Arc-blowout with permanent magnet device for use under nominal voltages superior to 48 V.
- In that case, it is compulsory to have the fixed NO contact connected to the pole + of the battery.



Equipement for electrical trolleys

75. CIC 1-2 DC contactors



Possible addition of a block of adjustable auxiliary contacts 1 NO + 1 NC, on request.

Use

Device intended to control DC loads, voltage ≤ 110 V under ambient temperature conditions of 50° C max. It is specially recommended for:

- Equipping electrical vehicles and trolleys:
 - traction motor (strat-up by short circuiting resistors, electrical speed controller),
 - hydraulic pump motor (direct start-up or by electronic speed controller).
- Distribution by accumulator battery:
 - coupling, battery charge,
 - emergency lighting,
 - passenger car lighting, railways.
- Equipping electrical welding sets (DC side switch-off).

Description

- model element on blades eliminating premature wear and jamming allowing use in cold chamber.
- moving contact control device providing intentional sliding of contacts (self-cleaning) and reducing rebound (risk of welding on closing reduced).
- Ag Cdo contacts.
- polarised device: + to be connected to upper fixed contact.

- connection via front.

- 4 versions:

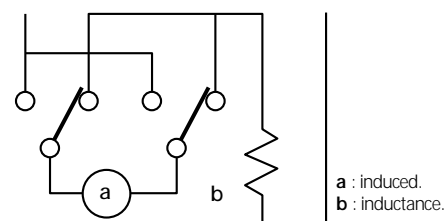
- D: 1 main pole without magnetic arc-blowout,
- DS: 1 main pole with magnetic arc-blowout,
- R: 1 reverser pole without magnetic arc-blowout,
- RS: 1 rupturing pole with magnetic arc-blowout.

- 3 power supply possibilities:

- intermittent service (trolley),
- permanent service without power-saving,
- permanent service with power-saving.

- rupturing, set of 2 CIC version R or RS (rupturing pole)

- installed on support plate,
- upper closing and opening contacts of poles inter-connected



Technical features

	CIC 1	CIC 2
Operating current (in open air DC_1)		
permanent service	A 180	240
trolley service ⁽¹⁾	A 250	310
connecting section	mm ² 35	70
Operating voltage⁽²⁾	V ≤ 110	≤ 110
Pole thermal time constant	mn 18	18
Operating category: DC_1 to DC_5 class 3	●	●
Pole current switch-off and switch-on rating		
NO contact		
version D-R closing	A 900	2000
V ≤ 48 opening	A 900	1200
version DS-RS closing	A 900	2000
V ≤ 96 opening	A 900	1200
NC contact		
version R closing	A 400	550
V ≤ 48 opening	A 400	500
version RS closing	A 400	550
V ≤ 96 opening	A 200	500
Voltage drop at pole	mV 37	44
under a current of	A 150	200
Maximum operating rate under load	operations/hour 300	300
Mechanical endurance	millions of operations 3	3
Control circuit: standard rated voltage	V 12-24-36-48-72-80-96-100-200	
permanent service without power-saving ⁽³⁾		
consumption at rated voltage	W 25	32
closing/opening time	ms 55/15	75/16
permanent service with power-saving ⁽⁴⁾		
consumption at rated voltage: inrush/hold	W 44/20	53/22
closing/opening time	ms 40/13	50/14
intermittent service: duty factor 50 % ⁽⁵⁾		
consumption at rated voltage	W 44	53
closing/opening time	ms 40/16	50/17

(1) duty factor 50 %, 5 min. open, 5 min. closed.

(2) magnetic arc-blowout by permanent magnet mandatory for opening under load with V > 48.

(3) allowable voltage 85 to 110 % rated voltage, opening voltage 20 % rated voltage.

(4) device with auxiliary contact and power-saving resistor allowable voltage 65 to 110 %, opening voltage 22 % rated voltage.

(5) max. cycle 150/150 s, allowable voltage 65 to 110 % rated voltage, opening voltage 15 % rated voltage.