SIEMENS

Data sheet 3RP1505-1BT20



Timing relay, Multifunction Phased-out product !!! For further information, please contact our sales department 2 change-over contacts, 16 functions 400...440 V AC, 0.05 s...100 h screw terminal

relay output ● relay output ● semi-conductor output Product extension required remote control Product extension optional remote control Insulation voltage for overvoltage category III according to IEC 60064 with degree of pollution 3 rated value test voltage for isolation test degree of pollution 3 surge voltage resistance rated value Protection class IP Shock resistance acc. to IEC 60068-2-27 IIg / 15 ms Vibration resistance acc. to IEC 60068-2-27 IIg / 15 ms Vibration resistance acc. to IEC 60068-2-27 IIg / 15 ms Product extension extension gife (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical adjustable time relative setting accuracy relating to full-scale value thermal current minimum ON period scovery time reference code acc. to IEC 81346-2 Felative repeat accuracy Substance Prohibitance (Date) Yes Substance Prohibitance (Date) Yes Substance Prohibitance (Date) Yes Substance Prohibitance (Date) Yes Substance Prohibitance (Date) No Substance Prohibitance (Date) Yes Substance Prohibitance (Date) Yes Substance Prohibitance (Date) Yes Substance Prohibitance (Date)	product brand name	SIRIUS
product component • relay output • semi-conductor output product extension required remote control product extension optional remote control Insulation voltage for severolage category Ill according to IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution 3 surge voltage resistance rated value protection class IP subsci (seistance acc. to IEC 60068-2-7 vibration resistance acc. to IEC 60068-2-7 vibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time elative setting accuracy relating to full-scale value termal current setference code acc. to IEC 81346-2 Felative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 control circuit/ Control type of voltage of the control supply voltage at 50 Hz at 50 Hz 400 440 V control supply voltage frequency 1 operating range factor control supply voltage rated value at 616 Hz • initial value 0.85	product designation	timing relay
product component	product type designation	3RP15
• relay output • semi-conductor output Product extension required remote control No product extension optional remote control No insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution 3 surge voltage resistance rated value protection class IP P20 shock resistance acc. to IEC 60068-2-27 vibration resistance acc. to IEC 60068-2-27 vibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current finimum ON period 35 ms reference code acc. to IEC 81346-2 relative repeat accuracy 1% Substance Prohibitance (Date) 28.05.2009 00:00:00 reference code acc. to IEC 81346-2 relative repeat accuracy 1% Substance Prohibitance (Date) 28.05.2009 00:00:00 retrol circuit/ Control type of voltage of the control supply voltage control supply voltage 1 at AC • at 50 Hz • at 60 Hz • at 60 Hz • initial value • initial value 9.85	General technical data	
• semi-conductor output product extension required remote control insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution surge voltage resistance rated value protection class IP shock resistance acc. to IEC 60068-2-27 invibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current siminimum ON period recovery time reference code acc. to IEC 81346-2 relative repeat accuracy type of voltage of the control supply voltage control supply voltage 1 at AC • at 50 Hz • at 50 Hz • at 60 Hz • initial value • initial value 0.05 s	product component	
product extension required remote control product extension optional remote control insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution 3 surge voltage resistance rated value protection class IP IP20 shock resistance acc. to IEC 60068-2-27 I1g / 15 ms vibration resistance acc. to IEC 60068-2-6 I055 Hz / 0.35 mm mechanical service life (switching cycles) typical I0 000 000 electrical endurance (switching cycles) typical I0 000 000 electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time I055 ms recovery time I5 A minimum ON period 35 ms recovery time I50 ms reference code acc. to IEC 81346-2 K relative repeat accuracy I % Substance Prohibitance (Date) 28.05.2009 00:00:00 control circuit/ Control type of voltage of the control supply voltage control supply voltage frequency I	 relay output 	Yes
product extension optional remote control insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution 3 surge voltage resistance rated value 6 000 V protection class IP IP20 shock resistance acc. to IEC 60068-2-27 11g / 15 ms vibration resistance acc. to IEC 60068-2-6 10 55 Hz / 0.35 mm mechanical service life (switching cycles) typical electrical endurance (switching cycles) typical adjustable time 0.05 s 100 h relative setting accuracy relating to full-scale value thermal current siminimum ON period recovery time reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 ontrol supply voltage 1 at AC o at 50 Hz o at 60 Hz o initial value o initial value 0.85	 semi-conductor output 	No
insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution surge voltage resistance rated value food 000 V protection class IP shock resistance acc. to IEC 60068-2-27 vibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current 5 A minimum ON period 7 So ms recovery time 150 ms reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage control supply voltage 1 at AC at 50 Hz at 60 Hz operating range factor control supply voltage rated value 4 C at 50 Hz initial value 0.85	product extension required remote control	No
IEC 60664 with degree of pollution 3 rated value test voltage for isolation test degree of pollution 3 surge voltage resistance rated value protection class IP	product extension optional remote control	No
degree of pollution surge voltage resistance rated value protection class IP shock resistance acc. to IEC 60068-2-27 tip / 15 ms vibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time 0.05 s 100 h relative setting accuracy relating to full-scale value thermal current 5 A minimum ON period 35 ms recovery time 150 ms reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) Notoriol circuit/ Control type of voltage of the control supply voltage at 50 Hz at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85		500 V
surge voltage resistance rated value protection class IP shock resistance acc. to IEC 60068-2-27 11g / 15 ms vibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) typical adjustable time relative setting accuracy relating to full-scale value thermal current ininium ON period source code acc. to IEC 81346-2 relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 control circuit/ Control type of voltage of the control supply voltage at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value initial value 6 000 V IP20 IP20 11g / 15 ms 12d / 10 000 10 0	test voltage for isolation test	2.5 kV
protection class IP shock resistance acc. to IEC 60068-2-27 11g / 15 ms vibration resistance acc. to IEC 60068-2-6 10 55 Hz / 0.35 mm mechanical service life (switching cycles) typical electrical endurance (switching cycles) typical adjustable time 10 000 000 relative setting accuracy relating to full-scale value thermal current 5 A minimum ON period 35 ms recovery time 150 ms reference code acc. to IEC 81346-2 Krelative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 control circuit/ Control type of voltage of the control supply voltage at 50 Hz at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85	degree of pollution	3
shock resistance acc. to IEC 60068-2-27 vibration resistance acc. to IEC 60068-2-6 nechanical service life (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current shiminum ON period 35 ms recovery time 150 ms reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Introl circuit/ Control type of voltage of the control supply voltage at 50 Hz at 50 Hz at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85	surge voltage resistance rated value	6 000 V
vibration resistance acc. to IEC 60068-2-6 mechanical service life (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current minimum ON period 35 ms recovery time 150 ms reference code acc. to IEC 81346-2 relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage at 50 Hz at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.05 s 100 h 100 000 100 00 100 00 100 000 100 000 100 00 100 00 100 00 100 00 100 000 100 00	protection class IP	IP20
mechanical service life (switching cycles) typical electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current fininimum ON period service y time reference code acc. to IEC 81346-2 relative repeat accuracy Substance Prohibitance (Date) Control circuit/ Control type of voltage of the control supply voltage at 60 Hz e at 60 Hz operating range factor control supply voltage rated value at AC at 50 Hz e initial value 100 000	shock resistance acc. to IEC 60068-2-27	11g / 15 ms
electrical endurance (switching cycles) at AC-15 at 230 V typical adjustable time relative setting accuracy relating to full-scale value thermal current 5 A minimum ON period 7 Exercise 150 ms recovery time 150 ms reference code acc. to IEC 81346-2 K relative repeat accuracy Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage 4 AC control supply voltage 1 at AC at 50 Hz at 60 Hz operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85	vibration resistance acc. to IEC 60068-2-6	10 55 Hz / 0.35 mm
typical adjustable time relative setting accuracy relating to full-scale value thermal current 5 A minimum ON period 35 ms recovery time 150 ms reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage at 50 Hz at 60 Hz 400 440 V control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85	mechanical service life (switching cycles) typical	10 000 000
relative setting accuracy relating to full-scale value thermal current 5 A minimum ON period 7		100 000
thermal current minimum ON period 35 ms recovery time 150 ms reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage control supply voltage 1 at AC at 50 Hz 400 440 V at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85	adjustable time	0.05 s 100 h
minimum ON period recovery time reference code acc. to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage 4C control supply voltage 1 at AC • at 50 Hz • at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz • initial value 0.85	relative setting accuracy relating to full-scale value	5 %
recovery time reference code acc. to IEC 81346-2 relative repeat accuracy 1 % Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage 4C control supply voltage 1 at AC	thermal current	5 A
reference code acc. to IEC 81346-2 relative repeat accuracy Substance Prohibitance (Date) 28.05.2009 00:00:00 control circuit/ Control type of voltage of the control supply voltage e at 50 Hz e at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz e initial value K AC 400 440 V 400 440 V 50 60 Hz	minimum ON period	35 ms
relative repeat accuracy Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage control supply voltage 1 at AC • at 50 Hz • at 60 Hz Control supply voltage frequency 1 Operating range factor control supply voltage rated value at AC at 50 Hz • initial value 1 % 28.05.2009 00:00:00 AC 400 440 V 400 440 V 50 60 Hz	recovery time	150 ms
Substance Prohibitance (Date) 28.05.2009 00:00:00 Control circuit/ Control type of voltage of the control supply voltage AC control supply voltage 1 at AC at 50 Hz at 60 Hz control supply voltage frequency 1 control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value at 28.05.2009 00:00:00 AC 400 440 V 50 440 V 50 60 Hz	reference code acc. to IEC 81346-2	K
type of voltage of the control supply voltage control supply voltage 1 at AC at 50 Hz at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value AC 400 440 V 400 440 V 50 60 Hz	relative repeat accuracy	1 %
type of voltage of the control supply voltage control supply voltage 1 at AC at 50 Hz at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value AC 400 440 V 400 440 V 50 60 Hz 50 60 Hz	Substance Prohibitance (Date)	28.05.2009 00:00:00
control supply voltage 1 at AC • at 50 Hz • at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz • initial value • initial value 1	Control circuit/ Control	
 at 50 Hz at 60 Hz 400 440 V control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz initial value 0.85 	type of voltage of the control supply voltage	AC
● at 60 Hz control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz ● initial value 400 440 V 50 60 Hz 0.85	control supply voltage 1 at AC	
control supply voltage frequency 1 operating range factor control supply voltage rated value at AC at 50 Hz • initial value 50 60 Hz 0.85	● at 50 Hz	400 440 V
operating range factor control supply voltage rated value at AC at 50 Hz • initial value 0.85	● at 60 Hz	400 440 V
value at AC at 50 Hz ● initial value 0.85	control supply voltage frequency 1	50 60 Hz
full-scale value 1.1	initial value	0.85
	• full-scale value	1.1

operating range factor control supply voltage rated value at AC at 60 Hz	
initial value	0.85
full-scale value	1.1
Switching Function	
switching function	
ON-delay	Yes
ON-delay/instantaneous contact	Yes
passing make contact	Yes
passing make contact/instantaneous contact	Yes
OFF delay	No
switching function	
 flashing symmetrically with interval start/instantaneous 	Yes
 flashing symmetrically with interval start 	Yes
 flashing symmetrically with pulse start/instantaneous 	No
 flashing symmetrically with pulse start 	No
flashing asymmetrically with interval start	No
flashing asymmetrically with pulse start	No
switching function	
star-delta circuit with delay time	No
star-delta circuit	Yes
switching function with control signal	
additive ON-delay	Yes
passing break contact	Yes
passing break contact/instantaneous	Yes
OFF delay	Yes
OFF delay/instantaneous	Yes
• pulse delayed	No
pulse delayed/instantaneous	No
• pulse-shaping	Yes
pulse-shaping/instantaneous	Yes
additive ON-delay/instantaneous	Yes
ON-delay/OFF-delay/instantaneous	Yes
passing make contact	No
passing make contact/instantaneous contact	No
switching function of interval relay with control signal	
 retrotriggerable with deactivated control signal/instantaneous contact 	No
 retrotriggerable with switched-on control signal 	No
 retrotriggerable with switched-on control signal/instantaneous contact 	No
 retriggerable with deactivated control signal 	No
design of the control terminal non-floating	Yes
Short-circuit protection	
design of the fuse link for short-circuit protection of the auxiliary switch required	fuse gL/gG: 4 A
Auxiliary circuit	
material of switching contacts	AgSnO2
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts delayed switching	2
operational current of auxiliary contacts at AC-15	
• at 24 V	3 A
• at 250 V	3 A
• at 400 V	3 A
operational current of auxiliary contacts at DC-13	
• at 24 V	1 A

● at 125 V	0.2 A
• at 250 V	0.1 A
	5 000 1/h
operating frequency with 3RT2 contactor maximum contact reliability of auxiliary contacts	
Contact reliability of auxiliary contacts	one incorrect switching operation of 100 million switching operations (17 V, 5 mA)
contact rating of auxiliary contacts according to UL	R300 / B300
influence of the surrounding temperature	±5 %
power supply influence	±1 %
Inputs/ Outputs	
product function	
non-volatile	No
Electromagnetic compatibility	
EMC immunity acc. to IEC 61812-1	EN 61000-6-2
conducted interference	
due to burst acc. to IEC 61000-4-4	2 kV network connection / 1 kV control connection
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
due to conductor-conductor surge acc. to IEC	1 kV
61000-4-5	
field-based interference acc. to IEC 61000-4-3	10 V/m
electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge
Safety related data	
type of insulation	Basic insulation
category acc. to EN 954-1	none
Connections/ Terminals	
product function removable terminal for auxiliary and control circuit	Yes
type of electrical connection for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
• solid	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
 finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
 at AWG cables solid 	2x (20 14)
at AWG cables stranded	2x (20 14)
 connectable conductor cross-section solid 	0.5 4 mm²
connectable conductor cross-section finely stranded with core end processing	0.5 2.5 mm ²
 AWG number as coded connectable conductor cross section solid 	20 14
 AWG number as coded connectable conductor cross section stranded 	20 14
tightening torque	0.8 1.2 N·m
design of the thread of the connection screw	M3
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
height	102 mm
width	22.5 mm
depth	91 mm
required spacing	
with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
for grounded parts forwards	0 mm
— forwards	0 mm
— backwards	0 mm
— upwards— at the side	0 mm 0 mm
— at the side	V IIIIII

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-85 °C
-85 °C
-60 °C
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Declaration of
Conformity

Test Certificates

Marine / Shipping

Miscellaneous

Type Test
Certificates/Test
Report









Marine / Shipping

other

Railway



Confirmation

Miscellaneous

Special Test Certificate

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RP1505-1BT20

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RP1505-1BT20

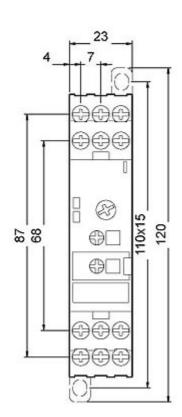
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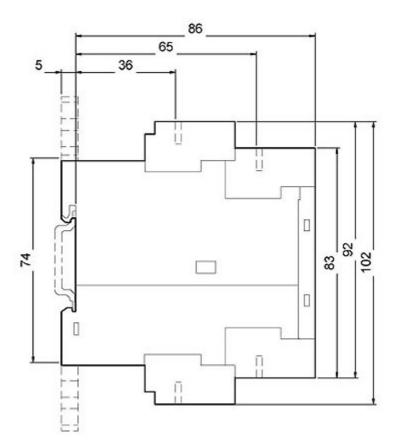
 $Image\ database\ (product\ images,\ 2D\ dimension\ drawings,\ 3D\ models,\ device\ circuit\ diagrams,\ EPLAN\ macros,\ ...)$

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Characteristic: Derating

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