
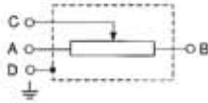
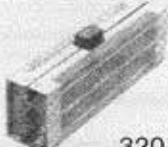
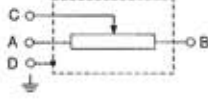
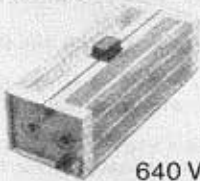
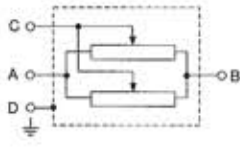
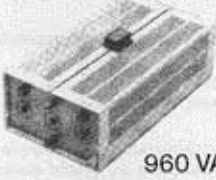
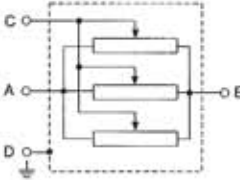
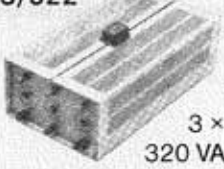
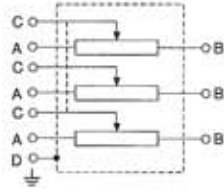


## TECHNICAL SPECIFICATIONS

Type Type Tipo	Description Description Descrizione	Scheme Schéma Schema	Resist. ( $\Omega$ )	$I_{max}$ (A)	
				permanent	15 min.
<b>PRN 162</b>  160 VA	Small handy version. Exécution convenable pour petites charges. Versione maneggevole per carichi minori.		1	13	18
			3.3	7	10
			10	4	5.7
			33	2.2	3.1
			100	1.25	1.8
			330	0.7	1.0
			1000	0.4	0.57
3300	0.22	0.31			
<b>PRN 322</b>  320 VA	Version for usual loadings. One resistance coil in a housing. Exécution convenable pour charges normales. Une bobine dans le boîtier. Versione per carichi abituali. Un avvolgimento di resistenza nel contenitore.		1	18	25
			3.3	10	14
			10	5.7	8
			33	3.1	4.4
			100	1.8	2.5
			330	1.0	1.4
			1000	0.57	0.8
3300	0.31	0.44			
10000	0.18	0.25			
<b>PRN 642</b>  640 VA	Version for high loadings. Two parallel connected resistance coils, in a housing. Sliding pieces are mechanically and electrically connected. Exécution pour grandes charges. Deux bobines liées en parallèle. Les coulisses sont liées mécaniquement et électriquement. Versione per carichi maggiori. Due avvolgimenti di resistenza collegati in parallelo nel contenitore. Le guide hanno collegamento meccanico ed elettrico.		0.5	36	50
			1.6	20	28
			5	11.4	16
			16.5	6.2	8.7
			50	3.6	5
			165	2	2.8
			500	1.1	1.6
1650	0.63	0.9			
5000	0.36	0.5			
<b>PRN 962</b>  960 VA	Version for very high loadings. Three parallelly connected resistance coils, in a housing. Sliding pieces are mechanically and electrically connected. Exécution pour grandes charges. Trois bobines liées en parallèle dans le boîtier. Les coulisses sont liées mécaniquement et électriquement. Versione per grossi carichi. Tre avvolgimenti di resistenza collegati in parallelo nel contenitore. Le guide hanno collegamento meccanico ed elettrico.		0.33	54	76
			1.1	30	42
			3.33	17	24
			11	9.3	13
			33	5.4	7.6
			110	3	4.2
			333	1.7	2.4
1100	0.98	1.4			
3330	0.54	0.76			
<b>PRN 3/322</b>  3 x 320 VA	Three phase version with resistance coils 3x320 VA. Sliding pieces are mechanically connected. Exécution triphasée avec bobines de 3x320 VA. Les coulisses sont interliées mécaniquement. Versione a tre fasi con avvolgimenti di resistenza 3x320 VA. Le guide hanno collegamento meccanico.		3x 1	3x 18	3x 25
			3x 3.3	3x 10	3x 14
			3x 10	3x 5.7	3x 8
			3x 33	3x 3.1	3x 4.4
			3x 100	3x 1.8	3x 2.5
			3x 330	3x 1.0	3x 1.4
			3x 1000	3x 0.57	3x 0.8
			3x 3300	3x 0.31	3x 0.44
			3x 10000	3x 0.18	3x 0.25

### Common Technical Data

Rated resistance	see tables
Resistance tolerance	$\pm 10\%$
Allowed permanent and intermittent load at 23 °C ambient temperature	see tables
Insulation resistance	$> 3 \times 10^7 \Omega$
Earthing resistance	$< 0.1 \Omega$
Allowed voltage at terminals	max. 600 V=
Allowed voltage between terminals (applied to PRN 3/322)	max. 700 V=
Breakdown voltage against casing	$> 2500 V\sim$
Protection degree	IP 20
Construction according to	EN 61010-1

In accordance to 2002/95/EC (Ro HS)

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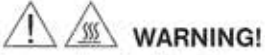


# VARIABLE RESISTORS


## Application

These table type variable resistors are indispensable aids, designed for varying d.c. and a.c. currents or voltages in a wide range of the electrical industry, such as testing the electric circuits of motor vehicles, applications in the laboratory and education and other. The units can be operated as rheostats or potentiometers.

## Use instructions



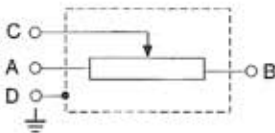
By operating of resistors to be considered:

1. If variable resistors is used in a manner not specified by the manufacturer the protection provided by the PRN may be impaired!
2. Read this instruction manual carefully, otherwise use of the PRN may be dangerous for the operator or for PRN!
3. Do not use resistor and accessories if any damage is noticed!
4. Consider all generally known precautions in order to avoid risk of electric shock while dealing with hazardous voltages!
5. Variable resistors must be carefully earthed before use (terminal D).
6.  Handling parts exceeds allowed temperatures in:
  - at nominal load > 15 min (valid for PRN 642, PRN 962 and PRN 3/322), and > 30 min (for PRN 162 and PRN 322).
  - at overload (see table) > 12 min (valid for PRN 162 and PRN 322) and > 8 min (valid for PRN 642, PRN 962 and PRN 3/322).

In case of higher ambient temperatures handling parts can exceeds allowed temperatures even sonner.

7. Heating of metal case exceeds allowed temperatures in approx. half of defined time.
8. Care and suitable thermal protection for hand is recommended at changing of resistance, when overheat is involved.
9. Do not impair natural air cooling. Easy inflammable parts must be removed.
10. At operation longer than 15 min, forced cooling is required (use of vents).
11. Higher temperatures don't effect on function of product.
12. Carrying by terminals is not allowed

Variable resistors can be used as variable load or as potentiometer:



### a) as variable load

Terminals used: A (black) and C (red), or B (black) and C (red). By moving slider's contact the resistance changes.

### b) as potentiometer

The voltage is applied between terminals A and B, to terminal C is connected output connection.

The permitted current and other provisions must be respected during usage. Variable resistors must be carefully earthed before use (terminal D). Variable resistors must be stored in dry places. Variable resistors must be dried in a stove for at least one hour at a temperature from 40 ° to 50 °C before usage, if they had been stored under humid conditions. Once every two years, it is recommended that the slide gullied be smeared with a contact cream (Wacker-Chemie 511 mittel).

No special maintenance is required for the housing. To clean the surface of the resistor use a soft cloth slightly moistened with soapy water or alcohol. Then leave it to dry totally before use. (Do not spill cleaning liquid over the variable resistor!) Cleaning is allowed, when the resistor is disconnected and not heated.

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