

# Euclid™ Power Resistors 3003cPL

Euclid Type SSR—1.3 to 101 Amperes 3003cPL

## Description

### Hexwound Resistors

For relatively light current applications, the Hexwound resistors provide 13 different current ratings in the range of 1.3 to 7.2 amperes. For each rating the resistor units are available in five different coil lengths, enabling the resistors to be selected to precisely meet the application requirements.

The Hexwound resistors consist of four basic parts, each engineered to perform a specific function. The core strip provides convenience in mounting while providing rugged support for the resistive element. The porcelain insulators are grooved to uniformly support each turn of the wirewound resistor element. Thus, each turn is insulated from each other and from the core strip.

The terminals of the Hexwound resistor are engineered to assure sound electrical as well as mechanical connections. The terminal securely clamps to two turns of the resistor element. The resistive element of the hexwound resistor, like in all Euclid resistors, is a continuous element.

### Edgewound Resistors

For heavier current requirements, the Edgewound resistors are available in 28 different current ratings, 8.5 amps through 101 amps without paralleling elements. The Edgewound units are available in five different lengths.

Edgewound resistors are constructed of a helical coil supported by patented porcelain insulators on a steel core strip. The porcelain insulators provide the turn-to-turn and turn-to-core strip insulation. The resistive element is formed by edgewise winding stainless steel to form a continuous helix.

The standard end terminal provided with edgewound resistors is a welded terminal. This welded terminal provides sound electrical connection to the resistive element while providing a good terminal for external connections. Intermediate taps or adjustable terminals are clamp type and can be positioned to practically any turn on the resistor.



## Features

The Type SSR Industrial Power Resistor series consists of two different types of units: a hexwound unit and an edgewound unit. Both types feature continuous resistive elements supported on porcelain insulated core strips.

- Convenient DIRECT-WIRING for Right or Left Hand Power Connections, Rugged Terminals on both sides for all power connections.
- Rugged shock-resisting, nonbreakable construction.
- Resistor assembly floats in slotted insulators.
- Corrosion resistant materials.
- Negligible temperature coefficient of resistance.
- Assembled resistor banks provide double insulation to ground.
- Individual resistor units in an assembled bank can be replaced without disrupting adjacent units.
- A variety of standard mounting frames, brackets, and enclosures.
- Assembled frames have identical mounting dimensions to old style assemblies. (Rod bolt mount)

## Application

These resistors are ideally suited for use in the secondary of AC wound rotor motors for accelerating, plugging, or speed regulating service. In the primary of the AC squirrel cage motors, these resistors serve as ballast resistors to eliminate the undesirable high torque and starting current associated with this type of motor. Industrial Power Resistors are also used in conjunction with appropriate control equipment to accelerate, plug, or dynamic brake DC motors. Other applications for resistors include: neutral grounding resistors, AC and DC dynamic braking, load banks, current limiting, and ballast for mercury vapor lamps. The rating versatility as well as the mounting flexibility, enable the resistors to be applied in other innumerable ways.

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## Frames and Enclosures

Euclid power resistors can be supplied factory mounted in a variety of galvanized steel frames and enclosures; standard frames, open frames, or mill frame. Covers consist of cane metal enclosed, ventilated weatherproof enclosed or totally enclosed nonventilated. Standard frames are supplied with resistor assemblies unless otherwise specified.

## Unassembled Resistors

### Order by:

Part Numbers of Individual Resistor Coils  
Part Numbers of Adjustable Terminals  
Part Number of Mounting Sockets and Clips  
Catalog Numbers of Frame  
Catalog Numbers of Cover (if required)

3 - Part No. 69285-006 Coils . . . . .  
3 - Part No. 17578-001 Adjustable Terminals  
6 - Part No. 69279-001 Mtg. Sockets & Clips  
1 - Cat. No. SSRS-35 Frame . . . . .  
1 - Cat. No. 1CM-35 Cover

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## Assembled Resistors

The following special services are available at a modest price addition:

Resistor drawing, consisting of a connection diagram and Bill of Materials  
Assembly of Coils into Frames  
Placement of more than one adjustable terminal per resistor coil  
Interwiring between coils in a frame  
Interwiring between stacked frames  
Assembly of cover to standard frame, if cover is required

For any of the above features add 10% to component price.  
(Coils + Frames + Adjustable terminals)

3 - Part No. 69285-006 Coils . . . . .  
3 - Part No. 17578-001 Adjustable Terminals  
6 - Part No. 69279-001 Mtg. Sockets & Clips  
1 - Cat. No. SSRS-35 Frame . . . . .

Interwiring Coils, and Placement of . . . . .  
Adjustable Terminal per drawing (Add 10%)  
1-Cat No 1CM-35 Cover

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## Engineered Resistor Assemblies

Hubbell Industrial Control's Engineering Staff will design resistor assemblies for your special application. Your inquiry should include (when possible): type of Equipment/Control Involved; Function to be Performed; Motor/Load Data including duty cycle, total ohmic value, tap locations, ampere rating, and special ambient conditions.

### Note:

\*Mounting Sockets must be specified on Purchase Order. Included in price of coils when coils are furnished with frame.

Add the prefix "HC" before all Part Numbers.

## Hexwound Resistor Coil

AMP	Size 3		Size 4		Size 5		Size 6		Size 7	
	Part no.	Ohms								
1.5	69423-002	64	69424-002	87	69424-002	110	69426-002	133	69427-002	156
1.7	69423-003	51	69424-003	69	69424-003	87	69426-003	105	69427-003	123
2	69423-004	40	69424-004	55	69424-004	69	69426-004	83	69427-004	69
2.3	69423-005	32	69424-005	43	69424-005	55	69426-005	66	69427-005	77
2.7	69423-006	25	69424-006	34	69424-006	44	69426-006	53	69427-006	62
3	69423-007	20	69424-007	27	69424-007	34	69426-007	42	69427-007	49
4	69423-009	13	69424-009	17	69424-009	22	69426-009	26	69427-009	31
4.6	69423-010	10.2	69424-010	14	69424-010	18	69426-010	21	69427-010	25
5.2	69423-011	8.1	69424-011	11	69424-011	14	69426-011	17	69427-011	20
6.5	69423-012	6.3	69424-012	8.6	69424-012	11	69426-012	13	69427-012	15
7.2	69423-013	5.1	69424-013	6.9	69424-013	8.7	69426-013	10.5	69427-013	12.3



## Edgewound Resistor Coils

AMP	Size 3		Size 4		Size 5		Size 6		Size 7	
	Part no.	Ohms								
5.5	69283-001	11.5	69284-001	15.6	69285-001	19.8	69286-001	24	69287-001	28.2
7	69283-002	7.77	69284-002	10.56	69285-002	13.4	69286-002	16.2	69287-002	19.05
8.5	69283-003	5.87	69284-003	7.98	69285-003	10.1	69286-003	12.2	69287-003	14.32
10	69283-004	4.47	69284-004	0.607	69285-004	1.68	69286-004	9.28	69287-004	10.9
11	69283-005	3.76	69284-005	5.17	69285-005	6.58	69286-005	8	69287-005	9.4
12	69283-006	3.07	69284-006	4.23	69285-006	5.38	69286-006	6.54	69287-006	7.68
13	69283-008	2.7	69284-008	3.72	69285-008	4.73	69286-008	5.75	69287-008	6.76
16	69283-010	2.08	69284-010	2.86	69285-010	3.64	69286-010	4.42	69287-010	5.2
18	69283-011	1.43	69284-011	1.96	69285-011	2.5	69286-011	3.04	69287-011	3.57
20	69283-012	1.31	69284-012	1.81	69285-012	2.3	69286-012	2.79	69287-012	3.29
22	69283-013	1.14	69284-013	1.57	69285-013	2	69286-013	2.49	69287-013	2.85
24	69283-014	0.095	69284-014	1.3	69285-014	1.65	69286-014	2	69287-014	2.36
27	69283-015	0.746	69284-015	1.02	69285-015	1.304	69286-015	1.58	69287-015	1.86
30	69283-016	0.571	69284-016	0.786	69285-016	1	69286-016	1.21	69287-016	1.43
34	69283-017	0.472	69284-017	0.65	69285-017	0.826	69286-017	1	69287-017	1.8
37	69283-018	0.428	69284-018	0.589	69285-018	0.75	69286-018	0.911	69287-018	1.07
40	69283-019	0.371	69284-019	0.51	69285-019	0.65	69286-019	0.789	69287-019	0.928
45	69283-020	0.29	69284-020	0.394	69285-020	0.499	69286-020	0.603	69287-020	0.708
50	69283-021	0.245	69284-021	0.334	69285-021	0.422	69286-021	0.511	69287-021	0.599
52	69283-022	0.223	69284-022	0.308	69285-022	0.39	69286-022	0.471	69287-022	0.553
56	69283-023	0.192	69284-023	0.262	69285-023	0.331	69286-023	0.4	69287-023	0.47
60	69283-024	0.18	69284-024	0.245	69285-024	0.31	69286-024	0.374	69287-024	0.4
64	69283-025	0.156	69284-025	0.212	69285-025	0.268	69286-025	0.324	69287-025	0.36
67	69283-026	0.145	69284-026	0.197	69285-026	0.249	69286-026	0.301	69287-026	0.354
70	69283-027	0.136	69284-027	0.186	69285-027	0.236	69286-027	0.286	69287-027	0.335
76	69283-028	0.11	69284-028	0.156	69285-028	0.191	69286-028	0.232	69287-028	0.272
82	69283-029	0.1	69284-029	0.136	69285-029	0.173	69286-029	0.209	69287-029	0.246
85	69283-030	0.087	69284-030	0.118	69285-030	0.15	69286-030	0.182	69287-030	0.214
94	69283-031	0.071	69284-031	0.097	69285-031	0.124	69286-031	0.15	69287-031	0.176
101	69283-032	0.06	69284-032	0.082	69285-032	0.105	69286-032	0.127	69287-032	0.15



Add the prefix "HC" before all the Part Numbers

Ampere ratings are based on single coils operating in free air at a temperature rise not to exceed 300° for Hexwound Resistor Coils or 375° for Edgewound Coils

## Frames

2 coils	3 Coils	4 Coils	5 Coils	6 Coils	7 Coils
Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
<b>Open Frames</b>					
<a href="#">SSRO-2</a>	<a href="#">SSRO-3</a>	<a href="#">SSRO-4</a>	<a href="#">SSRO-5</a>	<a href="#">SSRO-6</a>	<a href="#">SSRO-7</a>
<b>Standard Frames</b>					
<a href="#">SSRS-2</a>	<a href="#">SSRS-3</a>	<a href="#">SSRS-4</a>	<a href="#">SSRS-5</a>	<a href="#">SSRS-6</a>	<a href="#">SSRS-7</a>
<b>Universal Mill Frames</b>					
Accepts Nine (9) Size 3 Coils Catalog Number SSRM-93					

\* Complete catalog numbers by filling in resistor coil size after the listed catalog number



Open Frame



Standard Frame



Universal Mill Frame

## Covers

Number of Frames	2 coils	3 Coils	4 Coils	5 Coils	6 Coils	7 Coils
	Catalog Number*					
<b>Crane Metal</b>						
1	<a href="#">1CM-2</a>	<a href="#">1CM-3</a>	<a href="#">1CM-4</a>	<a href="#">1CM-5</a>	<a href="#">1CM-6</a>	<a href="#">1CM-7</a>
2	<a href="#">2CM-2</a>	<a href="#">2CM-3</a>	<a href="#">2CM-4</a>	<a href="#">2CM-5</a>	<a href="#">2CM-6</a>	<a href="#">2CM-7</a>
3	<a href="#">3CM-2</a>	<a href="#">3CM-3</a>	<a href="#">3CM-4</a>	<a href="#">3CM-5</a>	<a href="#">3CM-6</a>	<a href="#">3CM-7</a>
4	<a href="#">4CM-2</a>	<a href="#">4CM-3</a>	<a href="#">4CM-4</a>	<a href="#">4CM-5</a>	<a href="#">4CM-6</a>	<a href="#">4CM-7</a>
5	<a href="#">5CM-2</a>	<a href="#">5CM-3</a>	<a href="#">4CM-4</a>	<a href="#">5CM-5</a>	<a href="#">5CM-6</a>	<a href="#">5CM-7</a>
<b>Ventilated Waterproof</b>						
1	<a href="#">1VW-2</a>	<a href="#">1VW-3</a>	<a href="#">1VW-4</a>	<a href="#">1VW-5</a>	<a href="#">1VW-6</a>	<a href="#">1VW-7</a>
2	<a href="#">2VW-2</a>	<a href="#">2VW-3</a>	<a href="#">2VW-4</a>	<a href="#">2VW-5</a>	<a href="#">2VW-6</a>	<a href="#">2VW-7</a>
3	<a href="#">3VW-2</a>	<a href="#">3VW-3</a>	<a href="#">3VW-4</a>	<a href="#">3VW-5</a>	<a href="#">3VW-6</a>	<a href="#">3VW-7</a>
4	<a href="#">4VW-2</a>	<a href="#">4VW-3</a>	<a href="#">4VW-4</a>	<a href="#">4VW-5</a>	<a href="#">4VW-6</a>	<a href="#">4VW-7</a>
5	<a href="#">5VW-2</a>	<a href="#">5VW-3</a>	<a href="#">5VW-4</a>	<a href="#">5VW-5</a>	<a href="#">5VW-6</a>	<a href="#">5VW-7</a>
<b>Totally Enclosed Non-Ventilated **</b>						
1	<a href="#">1TE-2</a>	<a href="#">1TE-3</a>	<a href="#">1TE-4</a>	<a href="#">1TE-5</a>	<a href="#">1TE-6</a>	<a href="#">1TE-7</a>
2	<a href="#">2TE-2</a>	<a href="#">2TE-3</a>	<a href="#">2TE-4</a>	<a href="#">2TE-5</a>	<a href="#">2TE-6</a>	<a href="#">2TE-7</a>

\* Complete Catalog numbers by filling in resistor coil size after the listed catalog number

\*\* Derate resistor coil amps by 50% when using the Totally Enclosed Non-Ventilated Coils



Standard Frame with Crane Metal Covers



Standard Frame with Ventilated Weatherproof Covers



Standard Frame with Totally Enclosed Non-Ventilated Weatherproof Covers

## Terminals & Mounting Sockets

Part Number	Rating Amps	Coil Type
<a href="#">69430-001</a>	1.3-7.2	Wirewound
<a href="#">17578-001</a>	8.5-34	Edgewound
<a href="#">17577-001</a>	37-101	Edgewound

Terminals & Additional Mounting Sockets  
Edgewound End Terminal Modification  
Code Letter A ,Welded, Short terminal per coil  
Mounting Sockets & Clip - Part number 69279-001

## Stainless Steel Coil Jumpers with Hardware

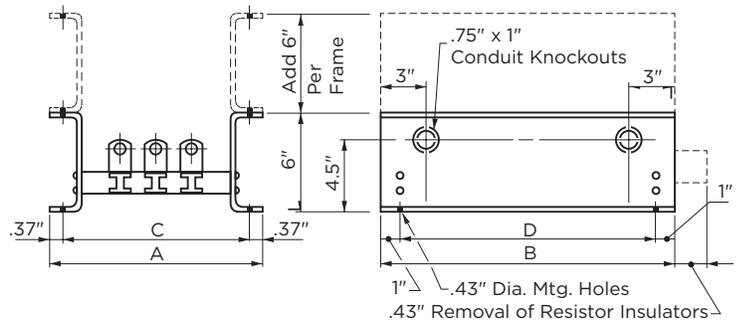
Part number	Description
<a href="#">69129-001</a>	2 Coils under 40 Amps
<a href="#">69129-002</a>	2 Coils over 40 Amps
<a href="#">69129-003</a>	3 Coils under 40 Amps
<a href="#">69129-004</a>	3 coils over 40 Amps
<a href="#">69129-005</a>	4 Coils under 40 Amps
<a href="#">69129-006</a>	4 Coils Over 40 Amps

Notes - Consult factory for stainless steel or aluminum frame and cover pricing.

### Standard Frame Dimensions in inches

No. of Coils	Coils Size	A	B	C	D
2	3	10	13.12	9.25	11.12
3	3	12.75	13.12	12	11.12
4	3	15.5	13.12	14.75	11.12
5	3	18.25	13.12	17.5	11.12
6	3	21	13.12	20.25	11.12
7	3	23.75	13.12	23	11.12
2	4	10	16.06	9.25	14.06
3	4	12.75	16.06	12	14.06
4	4	15.5	16.06	14.75	14.06
5	4	18.25	16.06	17.5	14.06
6	4	21	16.06	20.25	14.06
7	4	23.75	16.06	23	14.06
2	5	10	19	9.25	17
3	5	12.75	19	12	17
4	5	15.5	19	14.75	17
5	5	18.25	19	17.5	17
6	5	21	19	20.25	17
7	5	23.75	19	23	17
2	6	10	21.93	9.25	19.93
3	6	12.75	21.93	12	19.93
4	6	15.5	21.93	14.75	19.93
5	6	18.25	21.93	17.5	19.93
6	6	21	21.93	20.25	19.93
7	6	23.75	21.93	23	19.93
2	7	10	24.87	9.25	22.87
3	7	12.75	24.87	12	22.87
4	7	15.5	24.87	14.75	22.87
5	7	18.25	24.87	17.5	22.87
6	7	21	24.87	20.25	22.87
7	7	23.75	24.87	23	22.87

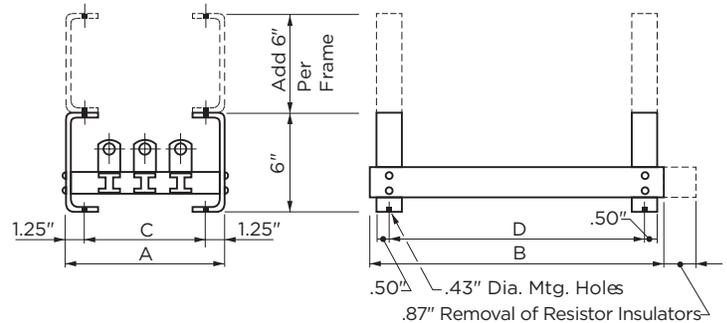
### Standard Frame



### Open Frame Dimensions in inches

No. of Coils	Coils Size	A	B	C	D
2	3	7.5	13.18	4.37	11.12
3	3	10.25	13.18	7.12	11.12
4	3	13	13.18	9.87	11.12
5	3	15.75	13.18	12.62	11.12
6	3	18.5	13.18	15.37	11.12
7	3	21.25	13.18	18.12	11.12
2	4	7.5	16.12	4.37	14.06
3	4	10.25	16.12	7.12	14.06
4	4	13	16.12	9.87	14.06
5	4	15.75	16.12	12.62	14.06
6	4	18.5	16.12	15.37	14.06
7	4	21.25	16.12	18.12	14.06
2	5	7.5	19.06	4.37	17
3	5	10.25	19.06	7.12	17
4	5	13	19.06	9.87	17
5	5	15.75	19.06	12.62	17
6	5	18.5	19.06	15.37	17
7	5	21.25	19.06	18.12	17
2	6	7.5	22	4.37	19.93
3	6	10.25	22	7.12	19.93
4	6	13	22	9.87	19.93
5	6	15.75	22	12.62	19.93
6	6	18.5	22	15.37	19.93
7	6	21.25	22	18.12	19.93
2	7	7.5	24.93	4.37	22.87
3	7	10.25	24.93	7.12	22.87
4	7	13	24.93	9.87	22.87
5	7	15.75	24.93	12.62	22.87
6	7	18.5	24.93	15.37	22.87
7	7	21.25	24.93	18.12	22.87

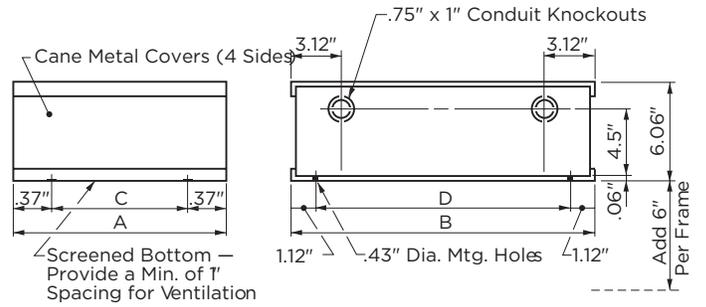
### Open Frame



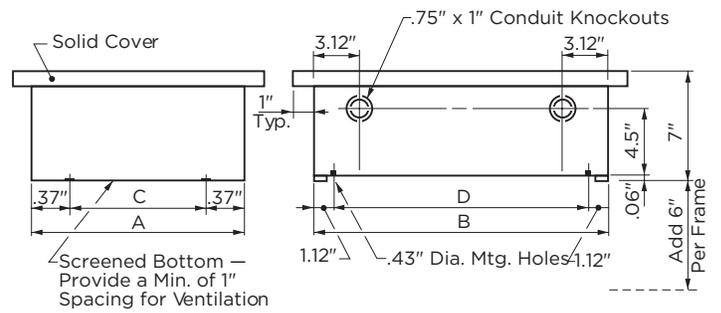
### Standard Frame Dimensions w/ Cover In inches

No. of Coils	Coils Size	A	B	C	D
2	3	10	13.37	9.25	11.12
3	3	12.75	13.37	12	11.12
4	3	15.5	13.37	14.75	11.12
5	3	18.25	13.37	17.5	11.12
6	3	21	13.37	20.25	11.12
7	3	23.75	13.37	23	11.12
2	4	10	16.31	9.25	14.06
3	4	12.75	16.31	12	14.06
4	4	15.5	16.31	14.75	14.06
5	4	18.25	16.31	17.5	14.06
6	4	21	16.31	20.25	14.06
7	4	23.75	16.31	23	14.06
2	5	10	19.25	9.25	17
3	5	12.75	19.25	12	17
4	5	15.5	19.25	14.75	17
5	5	18.25	19.25	17.5	17
6	5	21	19.25	20.25	17
7	5	23.75	19.25	23	17
2	6	10	22.18	9.25	19.93
3	6	12.75	22.18	12	19.93
4	6	15.5	22.18	14.75	19.93
5	6	18.25	22.18	17.5	19.93
6	6	21	22.18	20.25	19.93
7	6	23.75	22.18	23	19.93
2	7	10	25.12	9.25	22.87
3	7	12.75	25.12	12	22.87
4	7	15.5	25.12	14.75	22.87
5	7	18.25	25.12	17.5	22.87
6	7	21	25.12	20.25	22.87
7	7	23.75	25.12	23	22.87

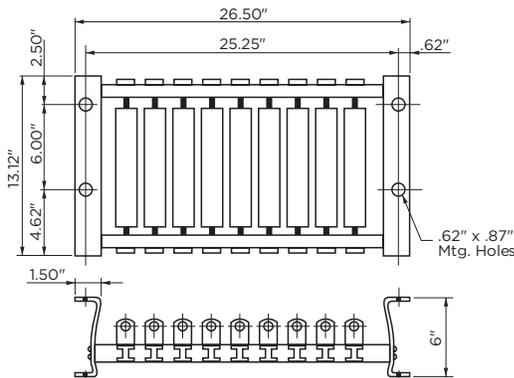
### Cane Metal Cover



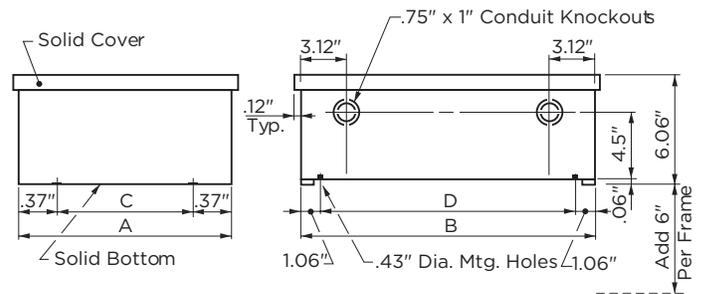
### Ventilated Weatherproof Cover



### Universal Mill Frame



### Totally Enclosed Non-Ventilated Cover



Note: Derate resistor coil amps 50% when using Totally Enclosed Non-Ventilated Covers