



Rugged, heavy-duty, Class 81 pump panels and switches for the agricultural industry

Pump Panels and Switches

Answers for industry.

SIEMENS

Class 81 Full Voltage Pump Control Panels



Siemens introduces its new Class 81 Irrigation Pump Panel. This newest addition to the already extensive line of Siemens pump panels was designed specifically for the agricultural market. It is well suited for irrigation and similar pumping applications and is built to withstand the harsh elements of the outdoors.

Typical applications include:

- Crop irrigation
- Sprinklers, misters and soakers
- Watering for livestock and other dairy applications
- Ground dewatering for excavation and construction sites

Features and Benefits

- Heavy-duty horsepower rated contactors sized 1/2 – 40hp to provide reliable motor control and protection expected in the most demanding applications
- Type 3R enclosure fabricated with galvanized steel versus conventional cold rolled steel for superior corrosion resistance
- Rugged 30mm H-O-A switch and Start push button, which are standard features, meet Type 3, 4, 12, and 13 specifications and are oil and dust tight for durability
- Pre-punched opening with cover plate for convenient field installation of a conduit hub should top entry be required
- Full gasketed door to ensure a dust tight and water tight seal
- Mounting flanges at top and bottom of enclosure for easy mounting on poles or flat surfaces using keyhole slots
- Door is removable for ease of installation and maintenance
- Factory and field modifications for custom applications
- UL rated as service entrance equipment
- UL listed
- Pre-drilled mounted holes for MotorSaver®

Why You Should Use The Class 81 Pump Panel

- The contactors have increased resistance to dirt and sand. Thus the Class 81 is ideal for environments with wind blown dirt and sand.
- The coils have a temperature rating of 155° C (0.75 – 20Hp). This high temperature rating allows the coil to withstand wider voltage fluctuations resulting in fewer coils burning out.
- The contactors meet the same rigorous horsepower ratings required by UL as all our other pump controllers. This means the high level of reliability you find in our existing pump controllers are also found in the Class 81.
- The contactors are constructed with the same materials used in all our other pump controllers. This means the Class 81 contactors are rugged and heavy-duty, immune to moisture and will not warp or melt if overheated.
- The contactors utilized in the Class 81 have been time proven over the past 55 years.
- The Class 81 utilizes the ESP100 solid-state overload relay. The circuit board is conformally coated which gives it superior protection against high humidity, condensation and corrosive environments. You will not find this in many of the other manufacturer's overload relays. Additionally, the ESP100 provides true phase loss protection tripping within three seconds.
- The width of the smallest Class 81 enclosure is half that of the Class 87 and weighs 40% less. This increases the ease of installation. Even with the smaller size, sufficient panel space is still provided for field installed devices.

Product Selection: Class 81 Pump Panels

Maximum HP 200 Volts, 3 Phase	230 Volts, 3 Phase	480 Volts, 3 Phase	Contactors Amp Rating	Breaker Amp Size	Overload Amp Range	Outline Dims. H" x W' x D"	Catalog Number
1/2	1/2	1	25	15	0.75-3	24 x 11 x 8	81AFB6MA*
1 1/2	2	3	25	15	2.5-10	24 x 11 x 8	81AFD6MA*
2	2	5	25	20	2.5-10	24 x 11 x 8	81AFD6MB*
3	3	7 1/2	25	25	9-18	24 x 11 x 8	81AFE6MC*
3	5	10	30	30	9-18	24 x 11 x 8	81BFE6MD*
5	5	10	30	40	13-27	24 x 11 x 8	81BFF6ME*
5	7 1/2	15	40	50	13-27	24 x 11 x 8	81CFF6MF*
7 1/2	10	20	50	60	22-45	24 x 20 x 8	81DFH6MG*
10	10	25	60	70	22-45	24 x 20 x 8	81EFH6MH*
10	15	30	60	90	30-60	24 x 20 x 8	81EFJ6MK*
20	20	40	90	125	45-90	24 x 20 x 8	81GEK6MN*

Replace (*) in catalog number with the appropriate letter from coil table below.

Coil Table	
60 Hz	Letter
24	J
110 – 120	F
200 – 208	D
208 – 240	G
277	L
440 – 480	H

Coil Inrush					
Cont. Size (Amp)	Inrush VA (Nominal)	Sealed VA (Nominal)	Pick-up Volts (Nominal)	Drop-out Volts (Nominal)	
25	91	15.6	80%	50%	
30	91	15.6	80%	50%	
40	91	15.6	80%	50%	
50	91	15.6	80%	50%	
60	91	15.6	80%	50%	
75	200	31	85%	53%	
90	200	31	85%	53%	

Maximum Wire Sizes		
Cont. Size (Amp)	Max Wire Size (Cu only)	Rating / Temperature
25	8 AWG	600V / 105° C
30	8 AWG	600V / 105° C
40	2 AWG	600V / 105° C
50	2 AWG	600V / 105° C
60	2 AWG	600V / 105° C
75	1/0 AWG	600V / 105° C
90	1/0 AWG	600V / 105° C

Heavy Duty Switches

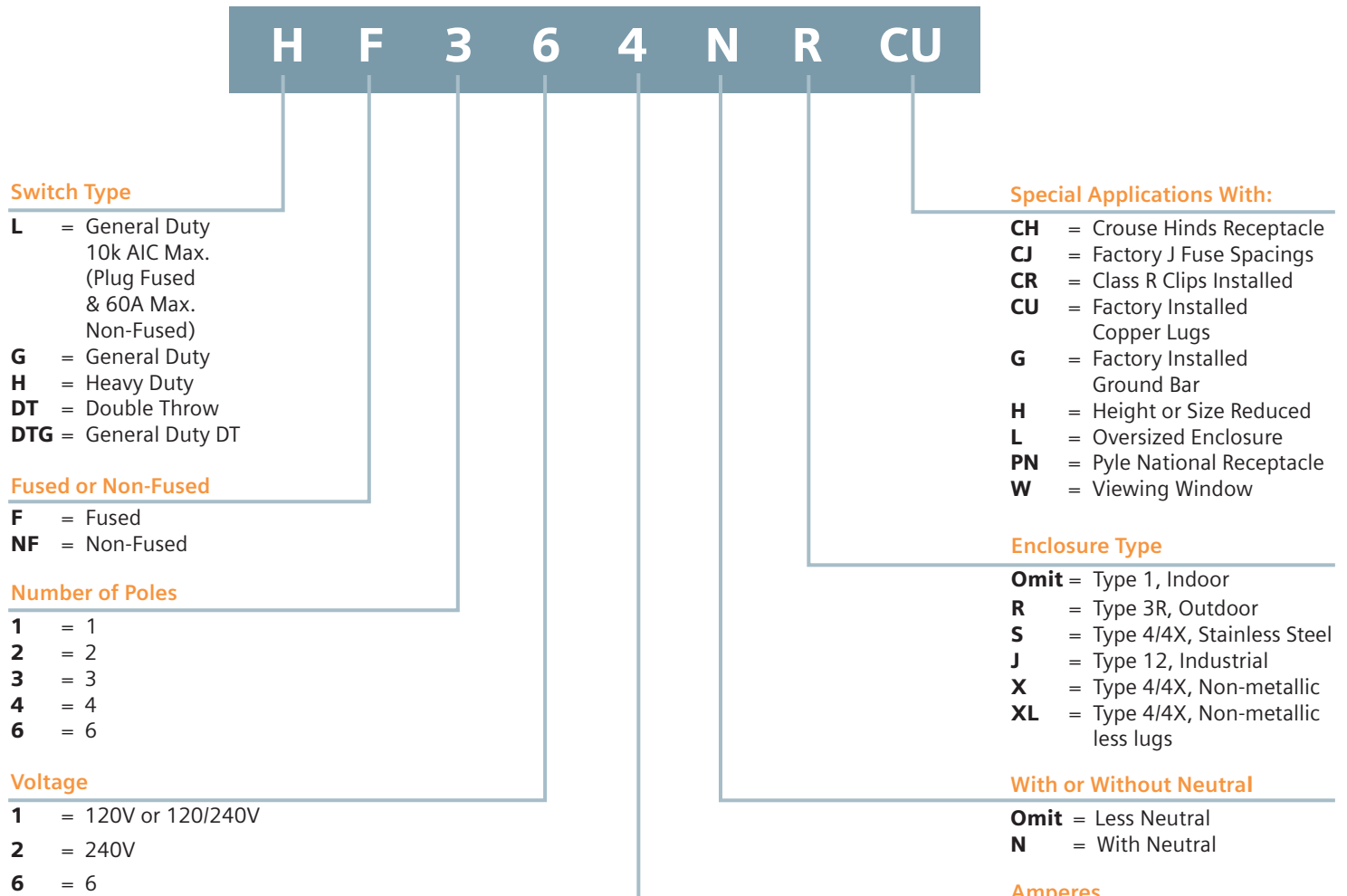


Features and Benefits

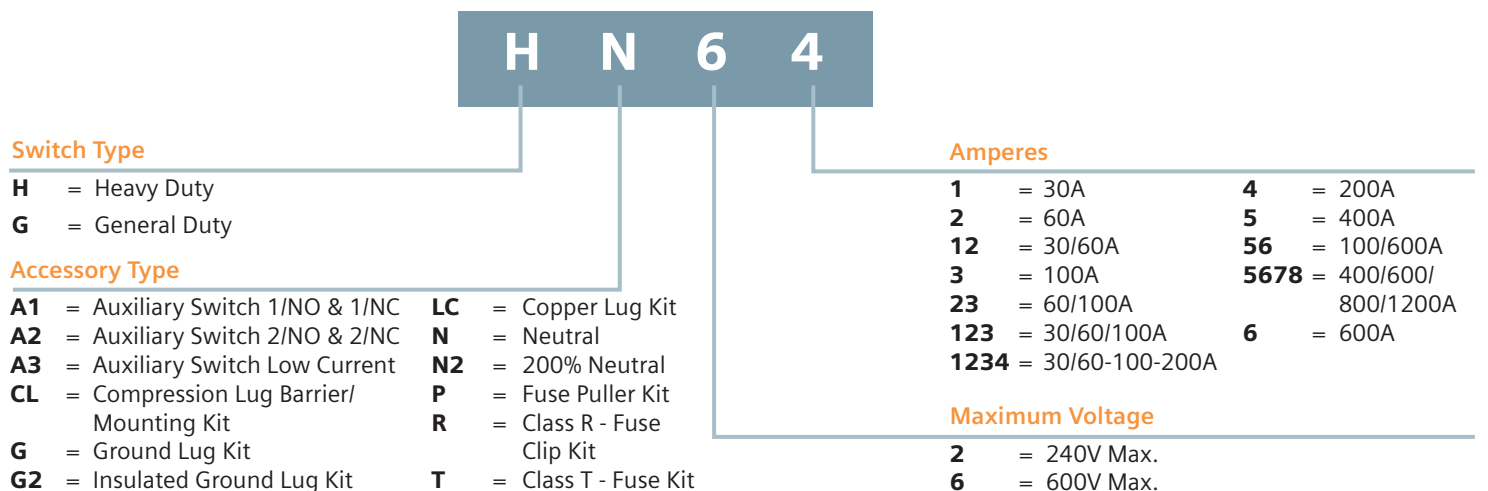
- 1 Quick-make, quick-break operating mechanism that ensures positive operation.
- 2 Visible blade, double-break switching action.
- 3 Arc chutes dissipate heat and prolong switch life.
- 4 Highly visible red handle grip. Designed for hook stick operation.
- 5 Defeatable dual cover interlock.
- 6 Generous top, bottom and side gutters that meet or exceed NEC wire-bending space requirements.
- 7 Informative door labeling which includes replacement parts list.
- 8 Side-hinged door that opens past 180° for easier wiring.
- 9 Unique enclosure design increases rigidity and prevents cuts and scrapes to conductors and installer's hands.
- 10 Spring reinforced fuse clips that assure reliable contact for cool operation.
- 11 Door latch securely holds door closed and allows cover padlocking.
- 12 Front removable mechanical lugs that are suitable for CU/AL 60 or 75° C conductors.
- 13 Lugs are field convertible to copper body and to a wide variety of compression connectors.
- 14 Hinged clear line terminal shield with probe holes for inspecting or testing line side terminals.
- 15 Drawn cover for increased rigidity and resistance to abuse.
- 16 Top key hole and bottom mounting holes provide easy two or three point mounting.

Heavy Duty Switches

Catalog Numbering System



Accessories Numbering System



Heavy Duty Switches



						Horsepower Rating 1				Horsepower Rating 1							
						480 Volt AC				600 Volt AC							
System	Ampere Rating	Indoor - Type 1 Catalog Number	Ship Wgt*	Outdoor - Type 3R Catalog Number	Ship Wgt.*	1-Phase, 2-Wire		3-Phase, 3-Wire		1-Phase, 2-Wire		3-Phase, 3-Wire		250 Volt DC	600 Volt DC		
600 Volt Fusible																	
2-Pole, 2-Fuse 2																	
480 Volt AC / 600 Volt AC / 600 Volt DC																	
	30	HF261	13	HF261R	13	3	7.5	—	—	3	10	—	—	5	15		
	60	HF262	16	HF262R	17	5	20	—	—	10	25	—	—	10	30		
	100	HF263	21	HF263R	22	10	30	—	—	15	40	—	—	20	20		
	400	HF265	149	HF265R	152	—	50	—	—	50	—	—	—	40	50		
	600	HF266	55	HF266R	157	—	50	—	—	50	—	—	—	50	50		
3-Pole, 3-Fuse																	
480 Volt AC / 600 Volt AC / 250 Volt DC 3																	
	30	HF361	13	HF361R	13	3	7.5	5	15	3	10	7.5	20	5	—		
	30	HF361L 4	19	HF361RL 4	19	3	7.5	5	15	3	10	7.5	20	5	—		
	60	HF362	19	HF362R	19	5	20	15	30	10	25	15	50	10	25 6		
	60	—	—	HF362RL 4	24	5	20	15	30	10	25	15	50	10	25 6		
	100	HF363	24	HF363R	24	10	30	25	60	15	40	30	75	20	25 6		
	200	HF364	44	HF364R	45	25	50	50	125	30	50	60	150	40	50		
	400	HF365H 5	136	HF365RH 5	137	—	—	100	250	—	—	125	350	50	—		
	400	HF365	162	HF365R	162	—	—	100	250	—	—	125	350	50	—		
	600	HF366H 5	138	HF366RH 5	141	—	—	150	400	—	—	200	500	—	—		
	600	HF366	166	HF366R	167	—	—	150	400	—	—	200	500	—	—		
	800	HF367	380	HF367R	382	—	—	200	500	—	—	250	500	—	—		
	1200	HF368	383	HF368R	385	—	—	200	500	—	—	250	500	—	—		
3-Pole, 3-Fuse and Solid Neutral																	
480 Volt AC / 600 Volt AC / 250 Volt DC 3																	
	30	HF361N	13	HF361NR	15	3	7.5	5	153	10	7.5	20	5	—	—		
	60	HF362N	19	HF362NR	20	5	20	15	30	10	25	15	50	10	25 6		
	100	HF363N	24	HF363NR	26	10	30	25	60	15	40	30	75	20	25 6		
	200	HF364N	45	HF364NR	50	25	50	50	125	30	50	60	150	40	50		
	400	HF365N	171	HF365NR	162	—	—	100	250	—	—	125	350	50	—		
	600	HF366N	172	HF366NR	165	—	—	150	400	—	—	200	500	—	—		
	800	HF367N	382	HF367NR	386	—	—	150	400	—	—	200	500	—	—		
1200	HF368N	385	HF368NR	388	—	—	150	400	—	—	200	500	—	—			
600 Volt Fusible (For 2-pole applications use outside poles of 3-pole switches)																	
2-Pole, 2-Fuse 2																	
480 Volt AC / 600 Volt AC / 600 Volt DC																	
	Type 4/4X Stainless Window		Type 12 Industrial Window														
		Std. Switch	Ship	Std. Switch	Ship												
		Cat. No.	Cat. No.	Cat. No.	Cat. No.												
	30	HF261S	—	17	HF261J	—	13	3	7.5	—	—	3	10	—	—	5	15
	60	HF262S	—	23	HF262J	—	22	5	20	—	—	10	25	—	—	10	30
	100	HF263S	—	29	HF263J	—	27	10	30	—	—	15	40	—	—	20	50
	400	HF265S	—	170	HF265J	—	165	—	50	—	—	50	—	—	—	40	50
	600	HF265S	—	170	HF265J	—	166	—	50	—	—	50	—	—	—	50	50
	3-Pole, 3-Fuse																
	480 Volt AC / 600 Volt AC / 250 Volt DC 3																
	30	HF361S	HF361SW	17	HF361J	HF361JW	17	3	7.5	5	15	—	—	7.5	20	5	—
	60	HF362S	HF362SW	23	HF362J	HF362JW	22	5	20	15	30	—	—	15	50	10	25 6
	100	HF363S	HF363SW	29	HF363J	HF363JW	26	10	30	25	60	—	—	30	75	20	25 6
	200	HF364S	HF364SW	56	HF363J	HF364JW	53	25	50	50	125	—	—	60	150	40	50 6
	400	HF365S	HF365SW	173	HF365J	HF365JW	166	—	—	100	250	—	—	125	350	50	—
	600	HF366S	—	175	HF366J	HF366JW	168	—	—	150	400	—	—	200	500	—	—
	800	HF367S	—	380	HF367J	—	380	—	—	200	500	—	—	250	500	—	—
1200	HF368S	—	—	HF368J	—	384	—	—	200	500	—	—	250	500	—	—	

* In pounds (lbs).

1 Dual horsepower ratings: Std. - applies when non-time delay fuses are installed. Max. - applies when time-delay fuses are installed.

2 Use 3-pole switch for 200A applications.

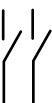

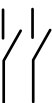

3 60-200A, 3-pole switches are also rated 600V DC.

4 Indicates oversized enclosure (30A switch in a 60A enclosure or a 60A switch in a 100A enclosure).

5 Height reduced switch with 500 MCM max. wire bending space.

6 600V DC rating and 600V DC HP rating requires two poles to be connected in series.



System	Amp. Rtg.	Indoor - Type 1		Outdoor - Type 3R		Horsepower Ratings				600 Volt		250V	600V																															
		Catalog Number	Ship Wgt.*	Catalog Number	Ship Wgt.*	240 Volt 1-phase	3-phase	480 Volt 1-phase	3-phase	1-phase	3-phase	DC	DC																															
600 Volt Non-Fusible (Also used for 240V applications)																																												
2-Pole ⁴										480 Volt AC / 600 Volt AC / 600 Volt DC																																		
	30	HNF261	11	HNF261R	11	—	—	7.5	—	10	—	5	15																															
	60	HNF262	16	HNF262R	18	—	—	20	—	25	—	10	30																															
	100	HNF263	19	HNF263R	20	—	—	30	—	40	—	20	50																															
	400	HNF265	126	HNF265R	129	15	—	50	—	50	—	40	50																															
	600	HNF266	127	HNF266R	129	15	—	50	—	50	—	50	50																															
3-Pole										480 Volt AC / 600 Volt AC / 250 Volt DC ¹																																		
	30	HNF361	12	HNF361R	13	3	10	7.5	20	10	30	5	—																															
	30	—	—	HNF361RL ³	19	3	10	7.5	20	10	30	5	—																															
	60	HNF362H ²	12	HNF362RH ²	13	10	20	20	50	10	40	5	—																															
	60	HNF362	18	HNF362R	19	10	20	20	50	25	60	10	25 ⁵																															
	60	—	—	HNF362RL ³	24	10	20	20	50	25	60	10	25 ⁵																															
	100	HNF363	23	HNF363R	24	15	40	30	75	40	100	20	25 ⁵																															
	200	HNF364	42	HNF364R	43	15	60	50	125	50	150	40	50 ⁵																															
	400	HNF365	132	HNF365R	129	15	125	50	250	50	350	50	—																															
	600	HNF366	133	HNF366R	130	15	200	50	400	50	500	—	—																															
	800	HNF367	302	HNF367R ⁴	305	15	250	50	500	50	500	—	—																															
1200	HNF368	305	HNF368R ⁴	307	15	250	50	500	50	500	—	—																																
<table><tr><th rowspan="2"></th><th colspan="3">Type 4/4X Stainless</th><th colspan="3">Type 12 Industrial</th><th colspan="4">Horsepower Ratings</th><th colspan="2">480V</th><th>600V</th><th>250V</th><th>600V</th></tr><tr><th>Standard Cat. No.</th><th>Window Switch Cat. No.</th><th>Ship Wgt.</th><th>Standard Cat. No.</th><th>Window Switch Cat. No.</th><th>Ship Wgt.</th><th>240V 1 Ph.</th><th>240V 3 Ph.</th><th>480V 1 Ph.</th><th></th><th>3 Ph.</th><th>1 Ph.</th><th>3 Ph.</th><th>DC</th><th>DC</th></tr></table>															Type 4/4X Stainless			Type 12 Industrial			Horsepower Ratings				480V		600V	250V	600V	Standard Cat. No.	Window Switch Cat. No.	Ship Wgt.	Standard Cat. No.	Window Switch Cat. No.	Ship Wgt.	240V 1 Ph.	240V 3 Ph.	480V 1 Ph.		3 Ph.	1 Ph.	3 Ph.	DC	DC
	Type 4/4X Stainless			Type 12 Industrial			Horsepower Ratings				480V		600V		250V	600V																												
	Standard Cat. No.	Window Switch Cat. No.	Ship Wgt.	Standard Cat. No.	Window Switch Cat. No.	Ship Wgt.	240V 1 Ph.	240V 3 Ph.	480V 1 Ph.		3 Ph.	1 Ph.	3 Ph.	DC	DC																													
2-Pole ⁴										480 Volt AC / 600 Volt AC / 600 Volt DC																																		
	30	HNF261S	—	15	HNF261J	—	13	—	—	7.5	—	10	—	5	15																													
	60	HNF262S	—	24	HNF262J	—	21	—	—	20	—	25	—	10	30																													
	100	HNF263S	—	28	HNF263J	—	25	—	—	30	—	40	—	20	50																													
	400	HNF265S	—	137	HNF265J	—	122	15	—	50	—	—	—	40	50																													
	600	HNF266S	—	138	HNF266J	—	128	15	—	50	—	—	—	50	50																													
3-Pole										480 Volt AC / 600 Volt AC / 250 Volt DC ¹																																		
	30	HNF361S	HNF361SW	15	HNF361J	HNF361JW	14	3	10	7.5	20	10	30	5	—																													
	60	HNF362SH ²	—	15	HNF362JH ²	—	14	10	20	20	50	10	40	5	—																													
	60	HNF362S	HNF362SW	23	HNF362J	HNF362JW	19	10	20	20	50	25	60	10	25 ⁵																													
	100	HNF363S	HNF363SW	27	HNF363J	HNF363JW	25	15	40	30	75	40	100	20	25 ⁵																													
	200	HNF364S	HNF364SW	55	HNF364J	HNF364JW	51	15	60	50	125	50	150	40	50 ⁵																													
	400	HNF365S	HNF365SW	133	HNF365J	HNF365JW	129	15	125	50	400	50	500	—	—																													
	600	HNF366S	—	134	HNF366J	—	130	15	200	50	500	50	500	—	—																													
	800	HNF367S	—	302	HNF367J	—	302	15	250	50	500	50	500	—	—																													
	1200	HNF368S	—	308	HNF368J	—	308	15	250	50	500	50	500	—	—																													

* In pounds (lbs.)

¹ 60-200A three-pole switches are also rated 600V DC.

² Compact switch with 100,000 RMS symmetrical short circuit rating.

³ Indicates oversized enclosure (30A switch in a 60A enclosure or a 60A switch in a 100A enclosure).

⁴ Use three-pole switch for 200A application.

⁵ 600V DC rating and 600V DC HP rating requires two poles to be connected in series.

Please refer to publication number NEBR-PUMPC-0605
for additional pump controllers.

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