



Sensata Technologies



INDUSTRIAL & HVAC
PRESSURE SWITCHES
SELECTION GUIDE

Sensata Technologies is a global leader in sensing and control solutions, trusted by industries worldwide to deliver products that make systems safer, cleaner, and more efficient and connected. Our industrial pressure switches are designed to provide accurate, repeatable performance in the most demanding environments. Built with robust materials and tested to rigorous standards, Sensata switches help protect critical systems, optimize efficiency, and ensure operational safety.

Our switches feature Klixon® snap-acting disc technology, which opens or closes a circuit by responding to pressure changes. They ensure precision, long life, and accurate pressure control across numerous applications. Designed for severe environmental conditions, they are available in configurations covering operating pressures from vacuum to 750 psig. Whether you need a compact solution for tight spaces or a heavy-duty switch for extreme conditions, Sensata offers a versatile portfolio that covers diverse pressure ranges, media compatibility, and electrical configurations.

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APPLICATIONS

Commercial and Residential Air Conditioning Systems

Our pressure switches help maintain optimal performance and safety in HVAC systems by monitoring refrigerant pressures and preventing compressor damage. They ensure efficient cooling and heating cycles, contributing to energy savings and system longevity.

Commercial Refrigeration

In refrigeration systems, Sensata switches provide precise pressure control to protect compressors and maintain consistent temperatures. This is critical for food preservation, cold storage, and other temperature-sensitive environments.

Data Center Cooling

Sensata pressure switches play a critical role in data center cooling infrastructure by ensuring reliable pressure control within chiller systems. By monitoring refrigerant and system pressures, they help maintain continuous cooling performance, protect critical equipment, and support uptime requirements.

Compressor and Pump Control

Sensata switches are widely used to regulate pressure in air compressors and fluid pumps. By activating or deactivating equipment at preset pressure points, they help prevent overpressure conditions and reduce wear on components, improving overall system reliability.

Off-Road and Specialty Vehicles

Our switches deliver rugged performance for engines, hydraulic systems, and air conditioning units in demanding off-road environments. They withstand vibration, temperature extremes, and harsh conditions, ensuring dependable pressure control for construction, agricultural, and specialty vehicles.







Process Control and Automation

Sensata pressure switches integrate seamlessly into control systems, providing reliable feedback for pumps, valves, and other critical components in manufacturing, chemical processing, and energy applications.



WHY CHOOSE SENSATA PRESSURE SWITCHES?

- **Proven Expertise:** Decades of experience in pressure sensing and control.
- **Comprehensive Portfolio:** Broad range of compact, heavy duty, and specialized configurations with options for various applications.
- **Technology:** Incorporates Sensata's patented Klixon® snap-acting disc technology for fast, reliable switching and long cycle life.
- **Durability:** Engineered for harsh environments, including high vibration and temperature extremes.
- **Global Manufacturing:** Manufacturing facilities and engineering support around the world.
- **Global Standards:** Manufactured to meet stringent international quality and safety requirements.
- **Custom Solutions:** Tailored designs available to meet unique performance, environmental, and regulatory requirements, including custom pressure set points, wire harnesses, connectors, and packaging configurations.

Family	Pressure Range*	Sealed Or Vented	Poles	Switch Logic Options	Cycles Rated Current*
 PS80	0-750 PSI (0-51 bar)	Sealed	SPST	Open or Close on Rise	100k
 PS80-L	100-700 PSI (6-48 bar)	Sealed	SPST	Open or Close on Rise	100k
 20PS	0-750 PSI (0-51 bar)	Sealed	SPST	Open or Close on Rise	100k
 25PS	0-750 PSI (0-51 bar)	Sealed	SPST or SPDT	Open or Close on Rise	100k
 29PS	200-750 PSI (13-51 bar)	Sealed	SPST	Open on Rise Only / Manual Reset	10k
 36PS	0-500 PSI (0-34 bar)	Vented	SPST	Open or Close on Rise	1M

*Values shown represent typical product offerings. Custom configurations may be available beyond the specifications listed. Please contact Sensata to discuss your application requirements.

Cycle Life at Rated Current	Application Voltage	Electrical Current	Series	Switch Operation	Switch Configuration
10,000	120 Vac	FLA 5.8 / LRA 34.8	29PS	Manual Reset	SPST
	240 Vac	FLA 2.9 / LRA 15			
100,000	30 Vdc	Induc. 0.1 A	20PS	Auto Reset	SPST
	28 Vdc	Induc. 15 A	25/45PS	Auto Reset	SPST/SPDT
	120 Vac	FLA 5.8 / LRA 34.8	20/36PS/25PS/45PS	Auto Reset	SPST
	240 Vac	FLA 2.9 / LRA 15			
	120 / 240 / 277 Vac	FLA 6 / LRA 36	PS80 / PS80-L	Auto Reset	SPST
	480 Vac	FLA 4 / LRA 24	45PS	Auto Reset	SPST
	600 Vac	FLA 3.2 / LRA 19.2			
	30 Vdc	Induc. 0.1 A	40 / 41 / 43PS	Auto Reset	SPST
5 to 28 Vdc	Induc. 400 mA to 2 A	36PS	Auto Reset	SPST	
28 Vdc	Induc. 15A	44PS	Auto Reset	SPST/SPDT	
250,000	120 Vac	FLA 5.8 / LRA 34.8	40 / 41 / 43PS	Auto Reset	SPST
	240 Vac	FLA 2.9 / LRA 15			
	120 Vac	FLA 13 / LRA 65	44PS	Auto Reset	SPST/SPDT
	240 Vac	FLA 10 / LRA 45			
	480 Vac	FLA 4 / LRA 24	44 / 45PS	Auto Reset	SPST
	600 Vac	FLA 3.2 / LRA 19.2			
1,000,000	5 to 28 Vdc	Induc. 5 to 400 mA	36PS	Auto Reset	SPST

PS80 SERIES (PS80 AND PS80-L)

Automatic Reset Pressure Switch



The PS80 is a safe and reliable automatic reset pressure switch designed to meet a broad spectrum of applications including HVAC & R, pumps and compressors by offering a wide range of pressure settings, port fittings and electrical connections. Its robust non-electric construction safely operates under high pressure conditions helping keep maintenance costs and return rates low.



Features:

- **Single-pole, single-throw switch (SPST) normally open (NO) or closed (NC)**
- **Environmentally sealed leads**
- **Flexible setpoint range**
- **Fixed set points**

TECHNICAL SPECIFICATIONS

Operating Pressure	PS80: 0 to 750 psig (51 bar) PS80-L: 100 to 700 PSIG (6 to 48 bar)	
Proof Pressure	Set Point	Proof Pressure
	<100psig	250psig (17 bar)
	100-500psig	600psig (41 bar)
	>500psig	800psig (55 bar)
Burst Pressure	5000 psig (345 bar)	
Life at Rated Current	100,000 cycles	
Compatible Refrigerants	R410a, R22, R134a, R407c CO2 (R333a), Propane (R290) and A2L (R32, R454A, R454B, R454C)	
Contact material	Silver & Gold plating	
Electrical Ratings	120/240 Vac - 6.0 FLA 36 LRA	
	120/277 Vac - 375 VA Pilot Duty	
	24 Vac - 125 VA Pilot Duty	
	30Vac/dc 0.1 A (Gold contacts)	
Dielectric Strength	750 Vrms Open Contacts	
	1550 Vrms Terminals to Fitting (Ground)	
Electrical Connection	Wire Lead 16 or 18Awg Quick Connects .250" x .032" Male Str. Tab	
Ambient Temperature	-20°F to 176°F / (-29°C to 80°C)	
Fluid Temperature	-65°F to 275°F (-54°C to 135°C)	
Contact configuration at atmospheric pressure	Normally Open (Close with pressure rise)	Normally Closed (Open with pressure rise)
		
Ingress protection	IP67 Available only for leaded configuration/ IP00 Available only for Q.C. configuration	
Agency Approval / Certifications	UL / CSA	
	ENEC EN60730, EN6730 -1, -EN607302-6	
	PED EN 12263 MODULE B&D	
	RoHS	
	CE	
	REACH	
	IECEx IEC 60079 - Explosive atmospheres	
	NCKL - Explosive atmospheres (Wire leaded devices only)	

PS80 Low Thermal Drift - Engineered for Low GWP and High Temperature Performance

The PS80-L is designed to deliver superior performance in demanding thermal environments while maintaining the trusted mechanical and electrical reliability of the PS80 model. Its advanced materials and innovative technology ensure precise actuation ($\pm 2\%$) under extreme cold and elevated discharge temperatures. The PS80-L meets the unique requirements of low GWP refrigerants, making it an excellent choice for modern heat pumps, refrigeration systems, and high temperature applications.

Features:

- **Low thermal drift design ($\pm 2\%$) for precise actuation**
- **Compatible with A2L and A3 refrigerants**
- **Setpoint options tailored for high temperature discharge in low-GWP HVAC/R systems**



20PS FAMILY (20PS, 40PS, AND 41PS SERIES)

Automatic Reset Pressure Switch



The 20PS family of switch products was developed to meet the demanding needs of HVAC & industrial applications and has since become a staple in the heavy vehicle and off road markets. The reliable and durable construction allows the product to perform under severe environmental conditions and very high vibration levels.

Features:

- **Single-pole, single-throw switch (SPST) normally open (NO) or closed (NC)**
- **Factory calibrated set points g vacuum to 750 psig**
- **Snap acting Klixon® stainless steel, hermetically sealed sensor**
- **Environmentally sealed or vented switch**



TECHNICAL SPECIFICATIONS

Operating Pressure	Vacuum to 750 psig (51 bar)	
Proof Pressure	Set Point	Proof Pressure
	<100psig	250psig (17 Bar)
	100-500psig	600psig (41 bar)
	>500psig	800psig (55 bar)
	Higher pressures available for certain applications. Contact Sensata.	
Burst Pressure	5000 psig	
Life at Rated Current	100,000 cycles (All - UL Recognition)	
	250,000 cycles (40PS, 41PS, 43PS)	
Compatible Refrigerants	R410a, R22, R134a, R407c CO2 (R333a), Propane (R290) and A2L (R32, R454A, R454B, R454C)	
Contact material	Silver Gold plating	
Electrical Ratings	120 VAC - 5.8 FLA 34.8 LRA 240 VAC - 2.9 FLA 15.0 LRA 120/277 VAC - 375 VA Pilot Duty 24 VAC - 125 VA Pilot Duty	30Vac/dc 0.1 A (Gold contacts)
Dielectric Strength	750 Vrms Open Contacts 1550 Vrms Terminals to Fitting	
Electrical Connection	Wire Lead 16 or 18Awg Quick Connects .250" x .032" Male Str. Tab	
Ambient Temperature	-40°F to 176°F / (-40°C to 80°C) (20PS) -40°F to 248°F / (-40°C to 120°C) (40/41PS)	
Fluid Temperature	-65°F to 275°F / (-53.9°C to 135°C)	
Contact configuration at atmospheric pressure	Normally Open (Close with pressure rise) 	Normally Closed (Open with pressure rise) 
Ingress protection	IP67 or IP00 "UL / CSA (20PS, 40PS, 41PS & 43PS) ENEC EN60730, EN6730 -1, -EN607302-6 (20PS, 40PS, 41PS & 43PS) PED EN 12263 MODULE B&D (20PS, 43PS)	
Agency Approval / Certifications	RoHS CE (20PS, 43PS) NCKL - Explosive atmospheres (Wire leaded devices only) (20PS)	

25PS FAMILY (25PS, 44PS, AND 45PS SERIES)

Automatic Reset Pressure Switch



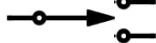
Sensata's 25PS pressure switch family of products is designed for direct control of electric motors, chillers, and other demanding load applications requiring precise pressure settings. Sensata's Klixon® snap acting disc is the heart of this hermetically sealed product offering. Extended electrical capacities and life cycles, in both environmentally sealed and unsealed configurations, encourage usage in the most rigorous electrical protection applications.



Features:

- Single-pole, single-throw switch (SPST) or single-pole, double-throw (SPDT) switch normally open (NO) or closed (NC)
- Factory calibrated set points
- Electrically rated to 600V (44/45PS)
- High cycle life capability (42/44PS)
- Environmentally sealed or vented

TECHNICAL SPECIFICATIONS

Operating Pressure	500 psig (34 bar)		
Proof Pressure	600 psig (41 bar)		
Burst Pressure	5000 psig (345 bar)		
Life at Rated Current	1,000,000 cycles 0-300 psig/milliamp load 100,000 cycles 0-500 psig full amperage		
Compatible Refrigerants	R410a, R22, R134a, R407c CO2 (R333a), Propane (R290) and A2L (R32, R454A, R454B, R454C)		
Contact material	Silver		
Switch configuration	SPST Normally Closed (Open with pressure rise) 	Normally Open (Close with pressure rise) 	SPDT (SINGLE POLE SINGLE THROW) 
Dielectric Strength	750 Vrms Open Contacts 1500 Vrms Terminals to Fittings (ground)		
Lead Wire Material	Wire Lead 16 or 18Awg Quick Connects .250" x .032" Male Str. Tab		
Ambient Temperature	-40°F to 257°F (-40°C to 125°C)		
Fluid Temperature	-65°F to 275°F (-53.9°C to 135°C)		
Ingress protection	IP67 FOR SEALED DEVICES or IP00 FOR VENTED DEVICES		
Agency Approval / Certifications	UL / CSA (25PS, 44PS, 45PS) ENEC EN60730, EN6730 -1, -EN607302-6 (25PS, 44PS, 45PS) PED EN 12263 MODULE B&D (25PS, 44PS, 45PS) RoHS CE (25PS, 44PS, 45PS) REACH IECEx IEC 60079 - Explosive atmospheres (25PS) NCKL - Explosive atmospheres (Wire leaded devices only) (25PS)		

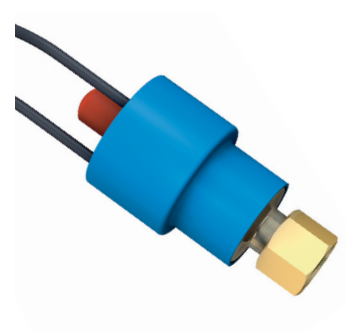
ELECTRICAL RATINGS

Device	Switch Type	28 Vdc		120 Vac				240 Vac			480 VAC		600 Vac	
		Amps Inductive	Ampst Res	FLA	LRA	VA Pilot Duty	Ampst Res	FLA	LRA	VA Pilot Duty	FLA	LRA	FLA	LRA
25PS (SPST)	NO	15	13	13	65	125	10	10	45	125	-	-	-	-
25PS (SPDT)	NO	15	10	5.8	34.8	278	5	2.9	17.4	278	-	-	-	-
44PS (SPST)	NO	15	13	13	65	125	10	10	45	125	4	24	3.2	19.2
45PS (SPST)	NC	15	25tt	13	60	125	25tt	10	45	125	4	24	3.2	19.2
44PS (SPDT)	NO	15	10	5.8	34.8	278	5	2.9	17.4	278	-	-	-	-
45PS (SPDT)	NC	15	25tt	13	60	125	25tt	10	45	125	-	-	-	-

29PS SERIES

Manual Reset Pressure Switch

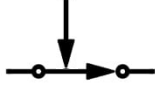
The 29PS Series pressure switch is designed to meet the manual reset needs of the commercial and industrial sectors. It is based on Sensata's 20PS pressure switch, long recognized as an industry standard control device. The Model 29PS pressure switch is ideal for central air conditioning systems, heat pumps, roof top units, and refrigeration systems. This hermetic pressure switch employs a trip-free manual reset function, providing high reliability in an environmentally sealed, low-cost package.



Features:

- Single-pole, single-throw switch (SPST) normally closed (NC)
- Factory calibrated pressure set points from 200 to 750 psig (14 to 52 bar)
- Snap-acting, trip free mechanism
- Broad assortment of port fittings and electrical connections
- Panel mount or line mount design options
- Tamper resistant
- Environmentally sealed or vented switch

TECHNICAL SPECIFICATIONS

Operating Pressure	200 to 750 psig (13 to 51 bar)	
Proof Differential and Tolerance	For actuation pressures of 200-350 psig (13 - 24 bar), tolerance is ± 10 psig (± 0.7 bar), 60-70% is standard differential; 351-500 psig (24 - 34.5 bar), ± 10 psig (± 0.7 bar), 65-75% differential; Differential = (release setpoint/actuation setpoint) X 100.	
Proof Pressure	Release Tolerance setpoint on all devices (0.2 bar), ± 30 psig. 600 psig (41 bar) for actuation pressure up to 400 psig (28 bar); 800 psig (55 bar) for higher actuation pressures	
Burst Pressure	5000 psig (345 bar)	
Standard Port Fittings	1/4" SAE female flare with deflator 1/4" male NPTF 1/8" male NPTF 1/4" SAE male flare 24" and 36" capillary tubes, straight or flared ends	
Electrical Ratings	Pilot-duty, 375 VA at 120 VAC 2.9 FLA, 15.0 LRA at 240 VAC	5.8 FLA, 34.8 LRA at 120 VAC 240 VAC 6A IND
Contact material	Silver	
Switch configuration	Single-pole single-throw normally closed at atmospheric pressure with manual reset 	
Dielectric Strength	750 Vrms across open contacts; 1554 Vrms to ground	
Life at Rated Current	10,000 cycles	
Leads	AWG stranded UL style 1056 with 1/2" strip standard 6" and 12" lengths standard, other lengths available and special terminals available upon request	
Ambient Temperature	-20°F to 150°F (-29°C to 66°C)	
Fluid Temperature	-65°F to 275°F (-54°C to 135°C)	
Ingress protection	IP67 FOR SEALED DEVICES or IP00 FOR VENTED DEVICES - UL / CSA (29PS) - ENEC EN60730, EN6730 -1, -EN607302-6 (29PS) - PED EN 12263 MODULE B&D (29PS)	
Agency Approval / Certifications	- RoHS - REACH - CE (29PS)	

36PS SERIES

Automatic Reset Pressure Switch

Sensata's 36PS pressure switch offers several design features that ensure accurate, reliable performance in low pressure, dry circuit applications. The all-metal construction of this hermetically sealed "free disc" switch allows it to remain extremely stable over life. Compatible with most fluids, the 36PS series is rated up to 1M cycles. The 36PS Series was developed to meet demanding needs of industrial applications. The reliable and durable construction allows it to perform under severe environmental conditions and high vibration levels.



Features:

- **Single-pole, single-throw switch (SPST) normally open (NO) or closed (NC)**
- **Factory calibrated set points**
- **Compact and lightweight for direct mounting**
- **Environmentally sealed and vented**
- **Narrow tolerance and hysteresis**
- **High vibration capability**

TECHNICAL SPECIFICATIONS

Operating Pressure	500 psig (34 bar)
Proof Pressure	600 psig (41 bar)
Burst Pressure	5000 psig (345 bar)
Life at Rate Current	1,000,000 cycles 0-300 psig/milliamp load 100,000 cycles 0-500 psig full amperage
Electrical Ratings	5 mA @ 9 Vdc to 2A @ 28 Vdc 5.8 FLA/34.8 LRA @ 120 Vac 2.9 FLA/15.0 LRA @ 240/277 Vac
Contact material	Gold
Switch configuration	Normally Closed (Open with pressure rise) Normally Open (Close with pressure rise)
Dielectric Strength	750 Vrms Open Contacts 1500 Vrms Terminals to Fittings (ground)
Lead Wire Material	#16 & #18 AWG 600 V 105°C 1/32" PVC Quick Connects .250" x 0.032" straight male spa
Ambient Temperature	-40°F to 257°F (-40°C to 125°C) (4% setpoint shift @ 100°C)
Fluid Temperature	-65°F to 275°F (-53.9°C to 135°C)
Ingress protection	IP00 VENTED DEVICES

CUSTOM SOLUTIONS

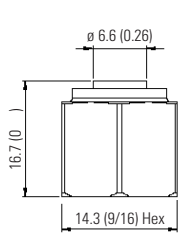
Every application is different. That's why Sensata offers custom pressure switch solutions tailored to your specific requirements. Whether you need unique pressure ranges, specialized electrical connections, custom housings, or integration with other sensing technologies, our engineering team will work with you to design and deliver a solution that fits into your system.

We leverage our global manufacturing capabilities and deep technical expertise to provide innovative, cost-effective designs that meet your performance, environmental, and regulatory needs. When standard products aren't enough, Sensata's custom offerings ensure you get exactly what your application demands. Contact us to discuss customization options, pricing, availability, or other details.

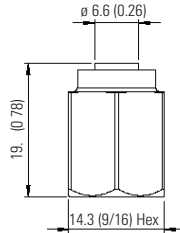


PRESSURE CONNECTIONS

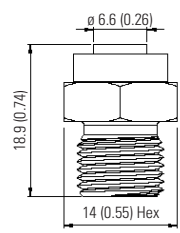
A) 1/4" SAE female flare with deflator (7/6" - 20 UNF - 2B)



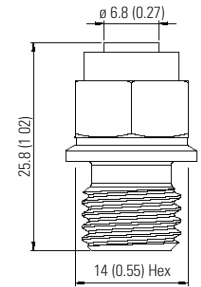
B) M10 x 1.25 female



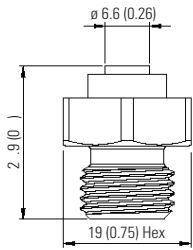
C) M10 x 1 male



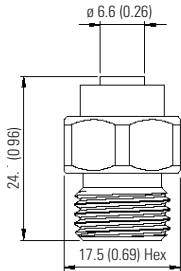
D) M12 x 1.5 male



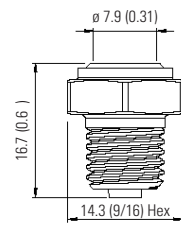
E) M14" x 1.5 male



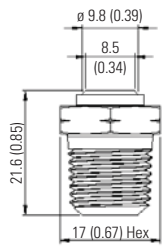
F) 9/16" - 18 UNF male



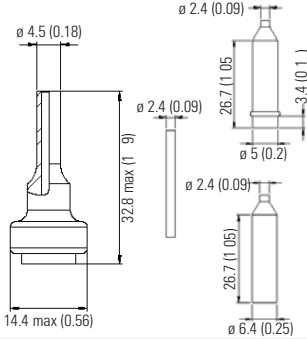
G) 1/8" - 27 NPTF male



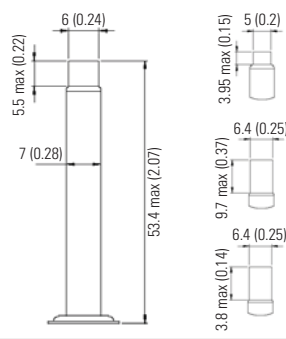
H) 1/4" - 18 NPTF male



J) Capillary tubes



K) Nibbed TIFs



Note: Dimensions shown in mm (inches)

SENSATA INDUSTRIAL PRESSURE SWITCHES – FREQUENTLY ASKED QUESTIONS (FAQ)

Q: What certifications do Sensata pressure switches have?

A: While certifications vary by product, Sensata pressure switches are often certified to CE, UL, PED (Module B+D), ATEX, ENEC, IEC 60335-2-40:2022, EN60730, RoHS, and REACH standards.

Q: What is the accuracy of the actuation (cut-out) point?

A: Accuracy is based on the EN12263 4.4.3 standard.

Q: How is Klixon related to Sensata switches?

A: Klixon is a Sensata brand.

Q: What fluids and refrigerants are compatible with Sensata pressure switches?

A: R410a, R22, R134a, R407c, CO2 (R744), Propane (R290), and A2L (R32, R454A, R454B, R454C). Please reach out to Sensata for other refrigerant options.

Q: Are Sensata pressure switches compatible with flammable refrigerants?

A: Yes. The PS80 series is compatible with propane and A2L blends.

Q: What is the IP rating of Sensata pressure switches?

A: IP67 (IP69 available for specific variants)

Q: Can the pressure set points be reconfigured after purchase?

A: No. Sensata pressure switches are factory calibrated; actuation and release pressures cannot be changed.

Q: What is the operating pressure range?

A: From vacuum to 750 PSIG.

Q: What is the expected cycle life of Sensata pressure switches?

A: Typically 100,000 cycles (may vary by product family; higher cycle life possible).



ABOUT US

Sensata Technologies is one of the world's leading suppliers of sensing, electrical protection, control and power management solutions with operations and business centers in twelve countries. Sensata's products improve safety, efficiency and comfort for millions of people every day in automotive, appliance, aircraft, industrial, military, heavy vehicle, heating, air-conditioning and ventilation, data, telecommunications, recreational vehicles and marine applications. For more information, please visit the Sensata website.

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5/2026

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