



Engineering

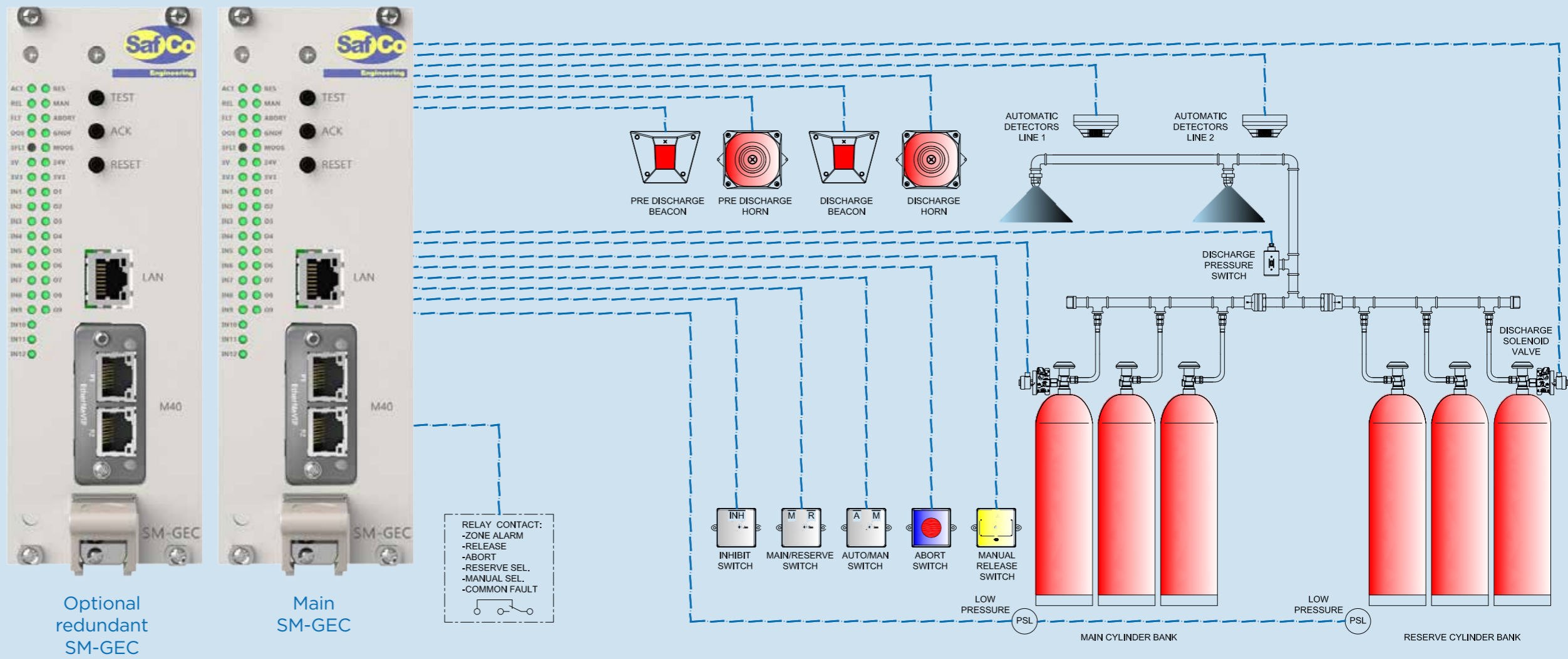


SM-GEC

Main Features

- 12 Digital inputs monitored
- 9 Digital outputs monitored
- 6 Relay contacts
- Single or redundant Hot back up configuration
- Hot swap card replacement
- EN12094-1 Certified
- SIL-2 Certified according to IEC61508-2 and IEC61508-3
- OnLine configuration via Web Browser
- Modbus TCP/IP communication protocol
- CIP Safety (Rockwell) communication protocol for SIL application
- Customizable third party protocol
- 2 Slot space into 19" rack

Configuration & Connection



Monitored Inputs

Inputs	Function-Description	Front LED Indication		
		Normal	Active/Fire	Fault
IN01	Conventional detection Line 1	●	●	●
IN02	Conventional detection Line 2	●	●	●
IN03	Signal from Central Fire Detection	●	●	●
IN04	Automatic/Manual Selector	●	●	●
IN05	Automatic/Manual Selector	●	●	●
IN06	Discharge button	●	●	●
IN07	Off-Zone Service Selector	●	●	●
IN08	Extinguishing Availability	●	●	●
IN09	Manual section out of service selector	●	●	●
IN10	Extension Emergency (ABORT)	●	●	●
IN11	Main or reserve bank Selection	●	●	●
IN12	Extinguishing flow (PSH) in progress	●	●	●

Monitored Ouputs

Ouputs	Function-Description	Front LED Indication		
		Normal	Active/Fire	Fault
OUT1	Solenoid valve	●	●	●
OUT2	Main bank valve	●	●	●
OUT3	Reserve bank valve	●	●	●
OUT4	Discharge tone	●	●	●
OUT5	Discharge tone	●	●	●
OUT6	Discharge lamp in progress	●	●	●
OUT7	Discharge lamp in progress	●	●	●
OUT8	Pre-discharge tone	●	●	●
OUT9	Cylinders out of service	●	●	●

Monitored Relay

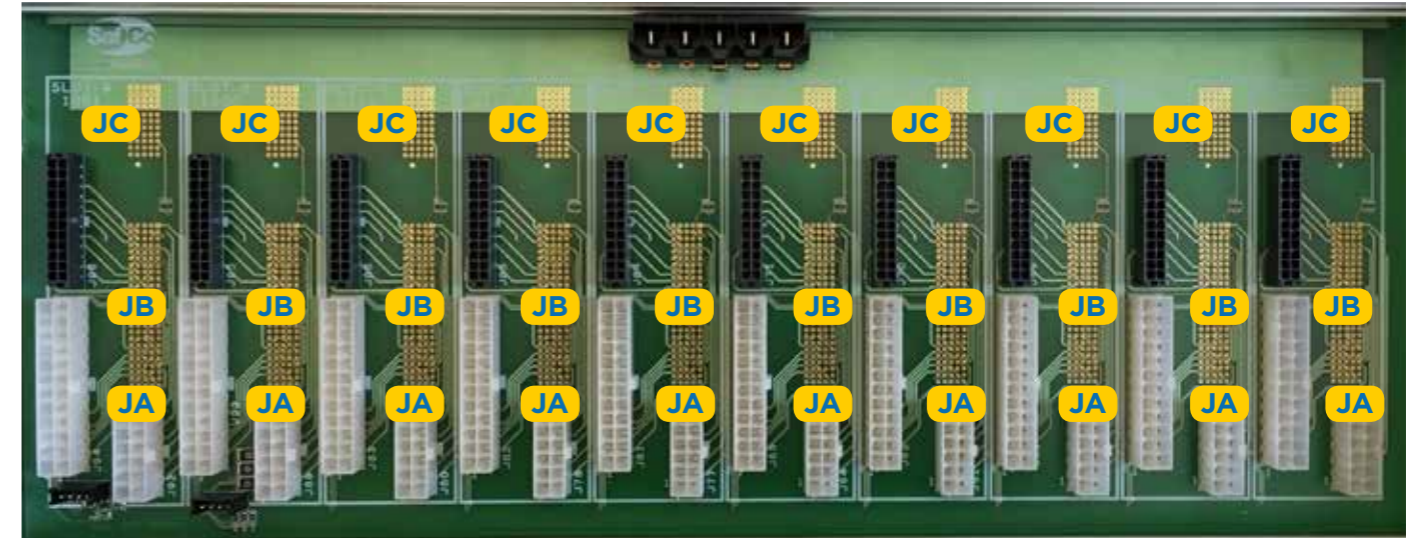
Relay Ouputs	Function-Description	LED
REL1	General fault	NO LED INDICATION
REL2	System in manual mode	
REL3	Abort activated (ABORT)	
REL4	Reserve bank selected	
REL5	Discharge in progress	
REL6	Zone activated	

Signal Led Tables

Status Table		
Tag	Colour	Function
ACT	●	The system is under supervision in the normal state
	●	The system is in the activation state
RES	●	The system is under supervision in the normal state
	●	Indicates that the reserve bank is selected
REL	●	The system is under supervision in the normal state
	●	A fire extinguishing agent is being released
MAN	●	The system is under supervision in the normal state
	●	Selected the function of the manual mode
FLT	●	The system is under supervision in the normal state
	●	There is an error on the inputs and / or outputs
ABORT	●	The system is under supervision in the normal state
	●	The pre-discharge time extension signal was activated
OOS	●	The system is under supervision in the normal state
	●	The system is out of service, however, the activation of the outputs is guaranteed if the discharge signal is present (PSH)
GNDF	●	The system is under supervision in the normal state
	●	There is a power dispersion to the ground
SFLT	Off	The system is under supervision in the normal state
	●	There is one or more system alarms that compromise the operation of the board (LED blinks when system is in service state)
MOOS	Off	The system is under supervision in the normal state
	●	The out of service function of the manual section is active
5V	Off	No power supply
	●	5Vdc power supply
24V	Off	No power supply
	●	24Vdc power supply
3V3M	Off	No power supply
	●	3Vdc Communication Module (Optional)
3V3	Off	No power supply
	●	3Vdc Microprocessor



Cable Connection

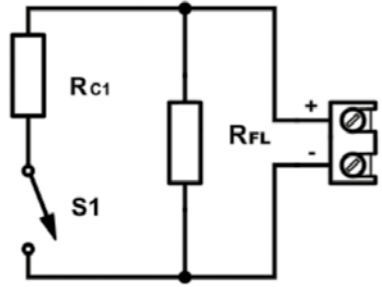


* connection according to the GEC position into the rack

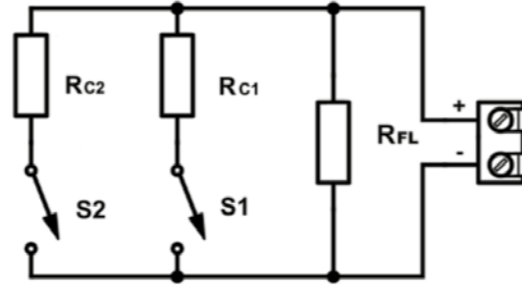
Cable connection			
Tag cable label	Description	Connector	PIN
NC	REL3	JA	12
COM	REL3	JA	11
NO	REL3	JA	10
NO	REL4	JA	9
COM	REL4	JA	8
NC	REL4	JA	7
NO	REL5	JA	1
NO	REL6	JA	2
NC	REL6	JA	3
NC	REL5	JA	4
COM	REL6	JA	5
COM	REL5	JA	6
OUT -	OUTPUT 5	JB	24
OUT -	OUTPUT 4	JB	23
OUT +	OUTPUT 4	JB	22
OUT -	OUTPUT 3	JB	21
OUT +	OUTPUT 3	JB	20
OUT +	OUTPUT 2	JB	19
OUT -	OUTPUT 2	JB	18
OUT +	OUTPUT 1	JB	17
OUT -	OUTPUT 1	JB	16
NC	REL2	JB	15
COM	REL2	JB	14
NO	REL2	JB	13
NO	REL1	JB	1
COM	REL1	JB	2
NC	REL1	JB	3
OUT -	OUTPUT 6	JB	4
OUT +	OUTPUT 6	JB	5
OUT -	OUTPUT 7	JB	6

Cable connection			
Tag cable label	Description	Connector	PIN
OUT +	OUTPUT 7	JB	7
OUT +	OUTPUT 8	JB	8
OUT -	OUTPUT 8	JB	9
OUT +	OUTPUT 9	JB	10
OUT -	OUTPUT 9	JB	11
OUT +	OUTPUT 5	JB	12
IN +	INPUT 9	JC	24
IN +	INPUT 1	JC	23
IN -	INPUT 5	JC	22
IN +	INPUT 10	JC	21
IN +	INPUT 2	JC	20
IN -	INPUT 10	JC	19
IN -	INPUT 2	JC	18
IN +	INPUT 7	JC	17
IN -	INPUT 11	JC	16
IN -	INPUT 3	JC	15
IN +	INPUT 4	JC	14
IN -	INPUT 8	JC	13
IN -	INPUT 4	JC	1
IN -	INPUT 12	JC	2
IN +	INPUT 12	JC	3
IN +	INPUT 8	JC	4
IN -	INPUT 7	JC	5
IN +	INPUT 3	JC	6
IN +	INPUT 11	JC	7
IN -	INPUT 6	JC	8
IN +	INPUT 6	JC	9
IN -	INPUT 1	JC	10
IN -	INPUT 9	JC	11
IN +	INPUT 5	JC	12

Field typical connection for monitored input



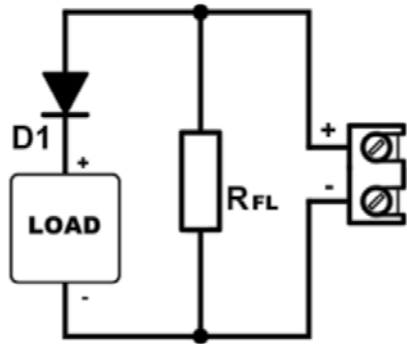
Single digital input



Multiple digital input

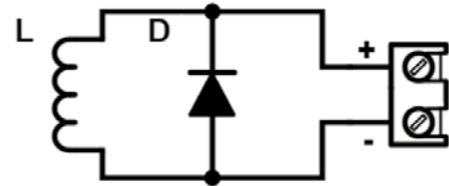
Device	Value
R_C	1.0K Ω - 1% - 1W
R_{FL}	6.8K Ω - 1% - 1W

Field typical connection for monitored output



Reverse polarity configuration

Device	Value
R_{FL}	6.8K Ω - 1% - 1W



Direct polarity for solenoid

Cable specification for input and output connection

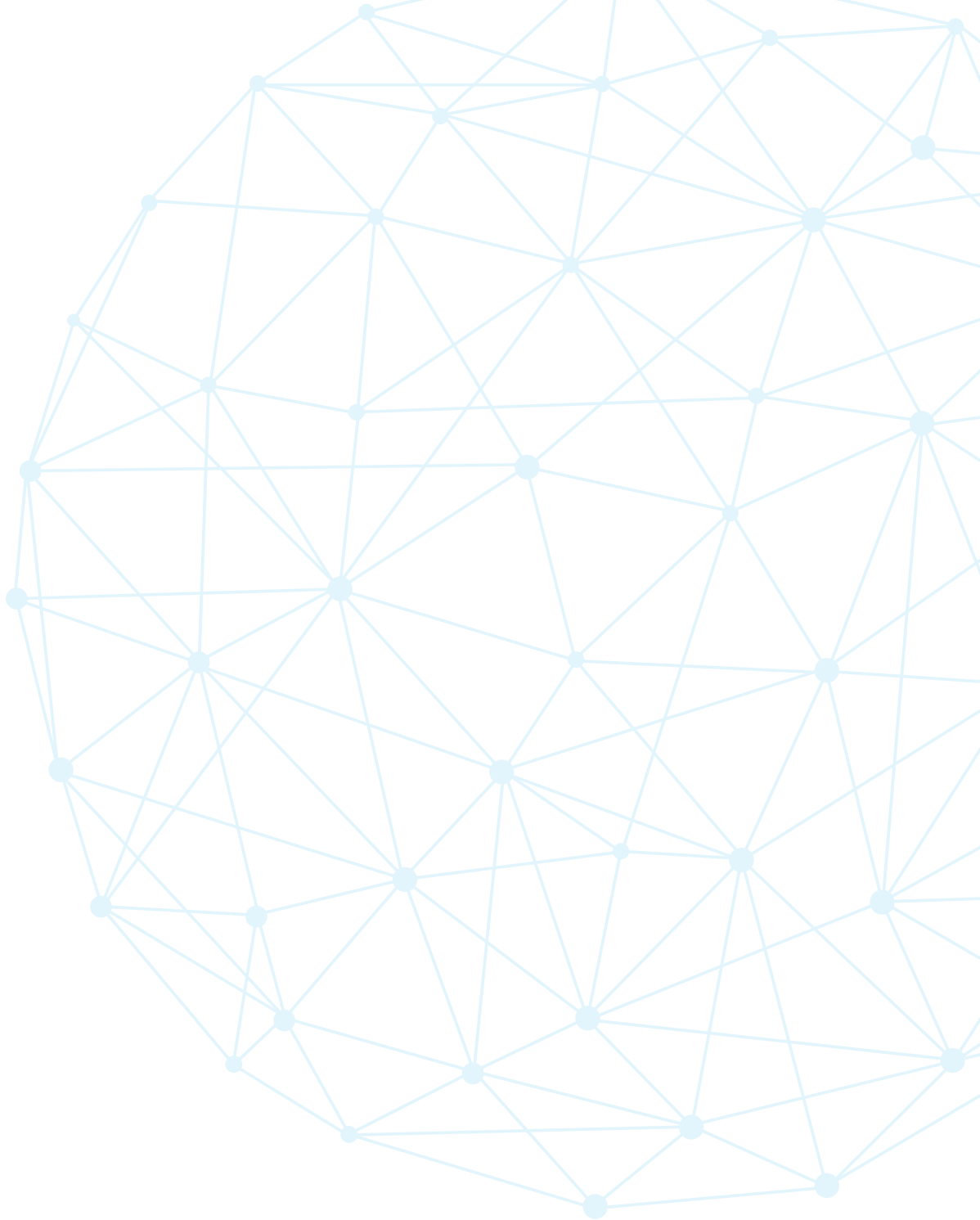
I/O	[mm ²]		[AWG]		Distance [mt]	
	min	max	min	max	min	max
Monitored Input	0.205	0.519	24	20	-	200
Monitored Output	1.309	1.309	16	16	-	100 (1)
Relay	1.309	1.309	16	16	-	100 (1)

1) Assuming end line load of 1 A, and using the maximum section of the available cable, the voltage drop is about 2.8 [V] (about 12% of the starting voltage)

Web Browser

Network configuration web page

Logic configuration web page



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