



BM

MODULAR BOXES

- ▶ Assembly from 1 to 6 modules
 - ▶ IP66/IP67 sealing
 - ▶ 1 or 2 cable glands per side
 - ▶ Range of protection levels available
- page 112



CD

SOCKET-OUTLETS WITH PROTECTION

- ▶ From 16 up to 63 A
 - ▶ RCD protection
 - ▶ Inspection trap
 - ▶ 1 or 2 MARECHAL® socket-outlets
 - ▶ Range of protection levels available
- page 114



BG

LIQUEFIED GAS TRANSFER BOXES

- ▶ Carrier safety
 - ▶ 30 mA protection
 - ▶ Guaranteed lorry grounding
- page 116

RANGE DISTRIBUTION BOXES AND OTHER PRODUCTS

MARECHAL® offers a wide range of distribution boxes for all industrial applications and a large choice of products designed specifically for power-supply in tunnels.

Find all information on our website:



marechal.com



Technical documentation



Product configurator



CRIC

CONNECTION TERMINALS

- ▶ From 2 x 1.5 to 2 x 120 mm²
- ▶ Will not unscrew due to vibration
- ▶ Resistant to thermal shock:
anti-shear capability

page 117



BRP

PORTABLE SERVICE BOXES

- ▶ From 2 to 4 outgoing lines
- ▶ From 16 A to 90 A
- ▶ 24, 230 or 400 V
- ▶ Protection on demand

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TUNNELS

BOXES AND CONNECTORS

- ▶ No cable cutting
- ▶ Fire-resistant boxes
- ▶ Wall mounting socket-outlet for
smoke accelerators
- ▶ Fire brigade boxes

page 118

BM MODULAR BOXES

- ▶ ASSEMBLY FROM 1 TO 8 MODULES
- ▶ IP66/IP67 SEALING
- ▶ 1 OR 2 CABLE GLANDS PER SIDE
- ▶ RANGE OF PROTECTION LEVELS AVAILABLE

BM : the benefits of modularity

The BM family of enclosures accepts PN plugs and sockets, DS and DSN deconnectors.

It offers differently sized boxes which can all be fitted with terminal blocks, domestic socket-outlets, inspection windows (for easy access to fuses and circuit breakers) etc. A coupling kit can join 2 boxes with each other.

MAIN FEATURES

	BM
Material	Impact-resistant thermoplastic (IK08)
Fastenings	Captive stainless steel screws
Protection mode	IP66/IP67
Rated current	From 16 to 63 A
Wiring	2 x 1,5 mm ² to 5 x 35 mm ²
Wall box dimensions (HxWxD) in mm	170 x 170 x 118 (80 without lid)
Assembly	1 ou 2 cable gland per side



Wall boxes can be used alone mounting accessories to PN, DS or DSN socket-outlets and inlets to form a wall mounting socket or a wall mounting appliance inlet. These solutions are described in the PN, and DSN pages.

BOXES FITTED WITH SOCKET-OUTLETS AND PLUGS

Inclined box - 1 socket-outlet

Inclined box made of thermoplastic material (IP66/67 - IK 08), with a flat lid, including:

- A MARECHAL® socket from 16 to 63 A, polarities from 2P to 3P+N+E, voltages from 24 V to 690 V : PN / DSN1 (16 A) - DS1 (30 A) - DSN3 (32 A) - DS3 (50 A) - DSN6 (63 A)
- The box is not drilled (drilled at extra cost).
- Entries from M16 to M40.
- Earth-leakage circuit breaker protection as standard. Other types of protection (earthleakage switch, fuses etc) available on request.

Inclined box with an inspection window - 1 socket-outlet

Inclined box made of thermoplastic material (IP66/IP67 - IK 08), with an inspection window, including:

- A MARECHAL® socket from 16 to 63 A, polarities from 2P to 3P+N+E, voltages from 24 V to 690 V : PN / DSN1 (16 A) - DS1 (30 A) - DSN3 (32 A) - DS3 (50 A) - DSN6 (63 A)
- The box is not drilled (drilled at extra cost).
- Entries from M16 to M40.
- Earth-leakage circuit breaker protection as standard. Other types of protection (earthleakage switch, fuses etc) available on request.



BASIC ELEMENTS

Wall box



Products	Entries	Dimensions*	Earth terminal	Part no.
PN or DSN1	for 2 from M16 to M32 per side	127 x 127 x 172	With	51AA058
DS1 or DSN3	for 2 from M16 to M32 per side	127 x 127 x 172	With	51BA058
DS3 or DSN6	for 2 from M16 to M40 per side	170 x 170 x 201	With	51CA058
DS6	for 2 from M16 to M40 per side	170 x 170 x 201	With	51DA058

Boxes are not drilled (drilled at extra cost).
* H x W x D

Box for terminal blocks + flat lid



Dimensions*	Part no.
170 x 170 x 118	509ACP2

Boxes for terminal blocks include a DIN rail and an earth terminal.
The box accommodates a 130-mm wide terminal box and can be equipped with a domestic socket-outlet (part no. 509AD40).
* H x W x D

Box with inspection window



Dimensions*	Part no.
170 x 170 x 118	509ACF2

The box is designed for 1 to 8 module assemblies.
* H x W x D

Coupling units (batch of 2)



Inside diameter	Part no.
26 mm	509AML1

These coupling units are used to connect 2 boxes together (vertically).

INFO +

These boxes are available with other circuit-breakers, fuses, decontactors and plug and sockets. Please contact us to communicate your needs..

To order plugs associated to the sockets mounted on the boxes, please see pages related to DSN1, DSN3, DSN6, DS1, DS3 and PN.

CD

SOCKET-OUTLETS WITH PROTECTION 16 A / 32 A / 63 A

- ▶ IP66/IP69K WATER- AND DUST-TIGHT
- ▶ RCD PROTECTION
- ▶ 1 OR 2 MARECHAL® SOCKET-OUTLETS

CD: security and simplicity provided

Compliant with CEI EN 61439-1 and CEI EN 61439-3, this box is composed of two parts fixed on hinges:

- a **protection** part, with a transparent window and a key locking option,
- a **terminal** part for a quick access to the connection.

MAIN FEATURES

CD

Material	Impact-resistant thermoplastic (IK09)
Fastenings	Captive stainless steel screws
Protection mode	IP66/IP69k - IP44 with domestic sockets
Rated current	From 16 to 63 A
Wiring capacity	2 x 1,5 mm ² to 5 x 35 mm ²
Cable entries	M50 max.
Housing dimensions (WxHxD) in mm	345 x 225 x 156
Assembly	10 modules max.

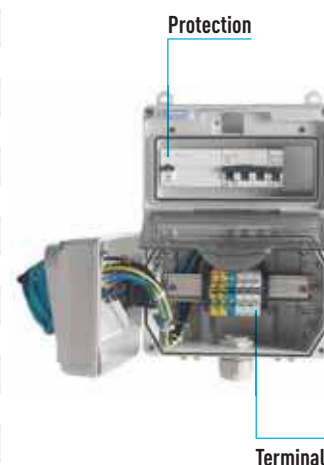
**Ready wired for
Installation**

COMPOSITION

INSIDE BOX

	Main switch with RCD 30mA	Circuit breaker Socket 1	Circuit breaker Socket 2	Terminal	Cable gland mm
Box					
CD1		1x16A 1P+N 30mA		1P+N+E 16mm ²	M25 POLY (9-18)
CD2	1x25A 1P+N	1x16A 1P+N	1x16A 1P+N	1P+N+E 16mm ²	M25 POLY (9-18)
CD3		1x16A 3P+N 30mA		3P+N+E 16mm ²	M25 POLY (9-18)
CD4		1x16A 3P 30mA		3P+E 16mm ²	M25 POLY (9-18)
CD5	1x25A 3P+N	1x16A 3P+N	1x16A 3P+N	3P+N+E 16mm ²	M25 POLY (9-18)
CD6*		+ 2 fuses 6A Gg		1P+N+E 16mm ²	M25 POLY (9-18)
CD7	1x25A 1P+N	1x16A 1P+N	1x16A 1P+N	1P+N+E 16mm ²	M25 POLY (9-18)
CD8		1x32A 1P+N 30mA		1P+N+E 16mm ²	M32 POLY (14-25)
CD9	1x40A 1P+N	1x32A 1P+N	1x32A 1P+N	3P+N+E 16mm ²	M32 POLY (14-25)
CD10		1x32A 3P+N 30mA		3P+N+E 16mm ²	M32 POLY (14-25)
CD11	1x40A 3P+N	1x32A 3P+N	1x32A 3P+N	3P+N+E 16mm ²	M32 POLY (14-25)
CD12	1x40A 3P+N	1x16A 1P+N	1x32A 3P+N	3P+N+E 16mm ²	M32 POLY (14-25)
CD13	1x40A 3P+N	1x16A 1P+N	1x32A 3P+N	3P+N+E 35mm ²	M40 POLY (18-32)
CD14	1x40A 3P+N	1x16A 1P+N	1x32A 3P+N	3P+N+E 16mm ²	M32 POLY (14-25)
CD15		1x63A 3P+N 30mA		3P+N+E 16mm ²	M40 POLY (18-32)
CD16*	1x25A 3P+N	+ 2 fuses 6A Gg	1x16A 3P+N	3P+N+E 16mm ²	M32 POLY (14-25)

* CD6 and CD16 boxes are equipped with a 160 VA 230V/24V transformer. Maximum operating temperature: 40 °C





PART NUMBERS

NUMBER AND TYPE OF SOCKET-OUTLET PER BOX

Type	French standard socket 16 A - 230 V	16 A socket	16 A socket			32 A socket		63 A socket	MARECHAL® DECONTACTOR™ associated*	
		24 V	220-250 V	380-440 V	220-250 V 380-440 V	220-250 V	220-250 V 380-440 V	220-250 V 380-440 V		
Box	2P+E	2P	1P+N+E	3P+E	3P+N+E	1P+N+E	3P+N+E	3P+N+E	DSN Range	DS Range
CD1			1						6114015CD1	3114015CD1
CD2			2						6114015CD2	3114015CD2
CD3					1				6114017CD3	3114017CD3
CD4				1					6114013CD4	3114013CD4
CD5					2				6114017CD5	3114017CD5
CD6		1							611408ACD6	311408ACD6
CD7	1		1						6114015CD7	3114015CD7
CD8						1			6134015CD8	3134015CD8
CD9						2			6134015CD9	3134015CD9
CD10							1		6134017CD10	3134017CD10
CD11							2		6134017CD11	3134017CD11
CD12			1				1		6134017CD12	3134017CD12
CD13			1				1		6134017CD13	3134017CD13
CD14	1						1		6134017CD14	3134017CD14
CD15								1	6164017CD15	
CD16		1 (PN Range)			1				6114017CD16	3114017CD16

* It is also possible to use DN range. Contact us for part numbers.

Other configurations on request. Please contact us for references.

INFOS +

The CD box can be mounted on a support. Please contact us for part numbers.



BG - CRIC - BRP



BG : Box for transfer of liquefied gas

Safe connection box for loading and unloading liquefied gas from vehicles

This box is designed to achieve five key functions:

- 1° - Compliance with **the NFC 15 100 installation standard**
- 2° - Compliance with **users protection decrees**
(workers and goods)
- 3° - **Mobile facilities protection**
- 4° - Switching off the socket on the rest position
- 5° - Personnel safety

MAIN FEATURES

- ▶ RCD 30 mA protection
- ▶ Truck Earth linkage warranty
- ▶ Fixation: 300 x 300 mm
- ▶ Height: 470 mm
- ▶ Depth: 250 mm
- ▶ IP68 M40 (Ø 20 to 32 mm) cable gland



	Current	Voltage	Box part number	Plug part number		
				Inlet	+	Handle
DN6	80 A	400 V	1---9 0670 A	19 68 037 Z0078	+	65 9A 013D__ (see DN6)
DN6	80 A	230 V	1---9 0670 B	19 68 037	+	65 9A 013D__ (see DN6)
DN1	16 A	400 V	1---9 0670 C	19 18 017	+	19 1A 013
DS9	100 A	400 V	3---9 0670 D	39 98 017	+	65 9A 013D__ (see DS9)



CRIC - Terminals from 2 x 1,5 to 2 x 120 mm²

The CRIC terminals are characterised by:

- perfectly tight: no tool required,
- a spring placed inside the terminal head compensates for strand settlement and copper yield.
- Spring-assisted tightening (even after copper yield)
- Vibration-resistant, thermal cycling-resistant and anti-shearing terminals
- Comply with the NFC 20-110 standard



Terminal		insulated with fixing part	insulated + screw with rear part	Earth with threaded hole	Earth + screw with rear part	Earth + screw with threaded hole	insulated without fixing part	Protecting cap
Wiring								
T6	2 x 1,5 mm ² to 2 x 6 mm ²	6 TA 6	6 TB 6	6 TD 6	6 TE 6	6 TF 6	6 TV 6	-
T16	2 x 4 mm ² to 2 x 16 mm ²	6 TA 16	6 TB 16	6 TD 16	6 TE 16	6 TF 16	6 TV 16	-
T35	2 x 6 mm ² to 2 x 35 mm ²	6 TA 35	6 TB 35	6 TD 35	6 TE 35	6 TF 35	6 TV 35	-
B70	2 x 25 mm ² to 2 x 70 mm ²	6 BA 70	6 BB 70*	6 BD 70	6 BE 70	6 BF 70	-	6 C 70
B120	2 x 50 mm ² to 2 x 120 mm ²	6 BA 120	6 BB 120*	6 BD 120	6 BE 120	6 BF 120	-	6 C 120

* rod non insulated



BRP : Portable service box

IP 54 Polyester box (2-3-4 outlets)

- Entry by cable gland (maximum 4 outlets)
- Entry by inlet (maximum 3 outlets)
- From 16 to 90 A - DS, DSN or DN 24, 230 or 400 V plugs and socket-outlets
- Protection on request

EQUIPMENT FOR TUNNELS

MARECHAL ELECTRIC is now a leading company in the electric connection for tunnels. Based on technology specially intended for such difficult environments and quick light disconnection, MARECHAL ELECTRIC has already equipped more than 700 km of underground roads, railroads and inland waterways... Always with the same objective: provide user safety, optimise maintenance and make the work of emergency services easier.

Products suited for special tunnel environments

Very often in a tunnel, there is dust, stone projections, smoke, gas, moisture, water streaming and, of course, pollution. Electric connections in tunnels are subjected to extremely corrosive conditions. Designed to withstand such conditions, MARECHAL® boxes equipped with connectors or deconnectors provide safe solutions for tunnel maintenance.

Watertightness

All boxes are watertight and withstand the use of high-pressure washing during the tunnels' maintenance.

Corrosion and impact resistance

Halogene and smoke free

For optimum safety, the materials used for making MARECHAL® boxes and connectors are resistant to corrosion and impact (resistance IK09). In case of fire, these materials emit no smoke or dangerous product.

Quality connection and easy disconnection: use of butt-contact

Easy disconnection = easy maintenance: thanks to the MARECHAL® silver-nickel butt-contact technology, the contacts are never welded. Therefore, the connection quality remains absolutely stable, and the disconnection can be done any time, even after several years.

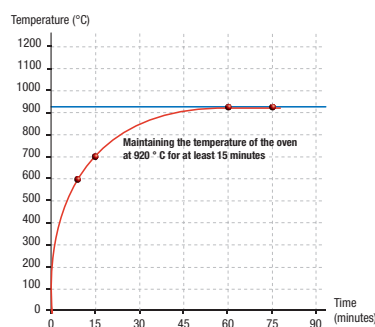
STANDARDS AND CERTIFICATIONS

Supply circuits for emergency lighting installed in tunnels must meet the following requirements:

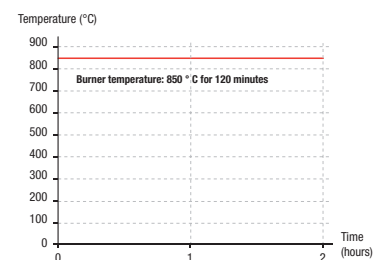
- ▶ EN 50362 European standard
- ▶ French government Directive No. 2000-63 of 25 August 2000 on safety in tunnels and national road network
- ▶ NF C 32-070 French standards
- ▶ Guides CETU defining the fire behavior of road tunnels

To meet these requirements, MARECHAL® equipments are among the only on the market to have been tested and certified by:

- C.S.T.B France - Centre Scientifique et Technique du Bâtiment
- IMQ laboratory in Italy.



Oven temperature curve - standardized time
NF C 32-070 standard



Flame temperature curve - Time
NF EN 50362 standard



DERIVATION BOXES WITHOUT CUTTING MAIN CABLE - Standard lighting

Made from halogen free fiberglass reinforced polyester compound or thermoplastic, these boxes allow a service tap-off from the main through cable **without the need to strip or cut the main cable**. "Snail" type gasket allow the immediate positioning of cables with a maximum diameter of 28 mm whilst creating an IP67 seal. The box lid, fitted with a retaining cord, is fixed to the box by means of captive stainless steel screws.

MAIN FEATURES

[Consult us](#)

POLY BOXES

ALUMINIUM BOXES

Service terminals	2 to 5 insulation-piercing.	
Service protection	By circuit breaker fitted to DIN rail	
Cables accepted	Armoured and unarmoured cables, stranded or flexible, from 2,5 mm ² to 35 mm ² (For conductors above 25 mm ² , the main cable must be cut.)	Armoured and unarmoured cables, stranded or flexible, from 4 mm ² to 35 mm ²
Internal and external Earth point	Inside and outside the enclosure	
Ingress Protection	IP66 according to NF EN 60529	
Shock resistance	IK09 according to NF EN 50102	
Fire smoke class	M1F0	
Self extinguishing material	UL94-V0	
Modularity box - Options - Other equipment	<ul style="list-style-type: none"> • Supply of service leads fitted with MARECHAL® coupler sockets • Accessories for fixing box to cable tray or ladder. • "Power On" signal light • Alternative non-piercing terminals • Alternative Protection: single phase circuit breaker • Plate for external fixing 	<ul style="list-style-type: none"> • Supply of service leads fitted with MARECHAL® coupler sockets • Alternative Protection: single phase circuit breaker



EXPRESS® BOX MADE FROM HALOGEN FREE FIBERGLASS REINFORCED POLYESTER COMPOUND

Type	H x L x P in mm	Distribution
91150	268 x 272 x 111	Maximum 2 tap-offs using 2 sockets Maximum 4 tap-offs using glands



EXPRESS® BOX MADE FROM HALOGEN FREE THERMOPLASTIC

Type	H x L x P in mm	Distribution
93036	190 x 522 x 121	Maximum 4 tap-offs using 2 sockets Maximum 4 tap-offs using glands



EXPRESS® BOX 1 LINE

Type	H x L x P in mm	Distribution
01N4015010E0	183 x 205 x 100	Maximum 2 tap-offs using 2 sockets Maximum 2 tap-offs using glands



EXPRESS® BOX 2 LINES

Type	H x L x P in mm	Distribution
01N4017020E0	268 x 272 x 111	Maximum 2 tap-offs using 2 sockets Maximum 2 tap-offs using glands

DISTRIBUTION BOXES FIRE RESISTANT

Emergency lighting, Signalling, Signposting

Poly boxes

Made from halogen free fiberglass reinforced polyester compound, these boxes allow a service tap-off from the main through cable **without the need to strip or cut the main cable**, known as type CR1-C1, conforms to NF C 32-070 or type FTG10(O) M1 0.6 KV conforms to EN 50362. "Snail" type gasket allow the immediate positioning of cables with a maximum diameter of 28mm whilst creating an IP67 seal. The box lid, fitted with a retaining cord, is fixed to the box by means of captive stainless steel screws.

Cast iron boxes

Made from cast iron, these boxes allow a service tap-off from the main through cable. Known as type CR1-C1, it conforms to NF C 32-070.

The main cable through the box through the cable glands and is connected to stainless steel terminals mounted on ceramic base.

The box lid is fixed to the box by means of captive stainless steel screws.

MAIN FEATURES

[Consult us](#)

	POLY BOXES	INOX 316L BOXES
Fire resistance	Electrical continuity of the main cable guaranteed: • NF C 32-070 : oven temp. 920°C - temperature increases. • NF EN 50362 : oven temp. 850°C - temperature increases.*	Electrical continuity of the main cable guaranteed to oven temp. 920°C - temperature increases according to NFC 32-070 standard.
Service terminals	• 2 to 5 insulation-piercing, stainless steel connectors, fitted into a ceramic base. The whole arrangement is fitted to the wall by means of a stainless steel plate. • 2 to 5 insulation-piercing only under EN 50362	2 to 5 insulation-piercing, stainless steel connectors, fitted into a ceramic base.
Service protection	By fuse or circuit breaker fitted to DIN rail	By fuse or circuit breaker monted on ceramic base.
Cables accepted	Armoured and unarmoured cables, stranded or flexible, from 4 mm ² to 25 mm ² . (For conductors above 25 mm ² , the main cable must be cut.)	Cables up to 185 mm ² .
Internal and external Earth point	Inside and outside the enclosure	
Ingress Protection	IP66 according to NF EN 60529	
Shock resistance	IK09 according to NF EN 50102	
Fire smoke class	M1F0	
Self extinguishing material	UL94-V0	
Modularity box - Options - Other equipment	<ul style="list-style-type: none"> • Supply of service leads fitted with MARECHAL® coupler sockets • Accessories for fixing box to cable tray or ladder. • "Power On" signal light • Alternative non-piercing terminals • Alternative Protection: single phase circuit breaker • Plate for external fixing 	<ul style="list-style-type: none"> • Supply of service leads fitted with MARECHAL® coupler sockets • Alternative Protection: single phase circuit breaker

* Only for EXPRESS® BOX Part no. 91151



EXPRESS® BOX MADE FROM HALOGEN FREE FIBERGLASS REINFORCED POLYESTER COMPOUND

Type	CSTB Certificate	IMQ Certificate	H x L x P in mm	Distribution
91151	RS10-083	AC.00646	268 x 272 x 111	Maximum 2 tap-offs using 2 sockets Maximum 4 tap-offs using glands



INOX 316 L BOXES

Type	CSTB Certificate	H x L x P in mm	Distribution
91141		140x200x130 to 500x500x160	Cable gland cable diameter greater than 25mm ²

F400 WALL MOUNTING SOCKET-OUTLET

Smoke accelerators

F400 Wall mounting socket-outlet

MARECHAL® F400 socket-outlet provides power to smoke accelerators simplifying maintenance while resisting the conditions of standard NF EN 12101-3. It is also a device for disconnecting power (cf. Articles 5.3 and 5.4 of the NF EN 60204-1 standard - Machine Safety - Electrical equipment of machines - Part 1 : general rules).

Mounted on aluminium boxes, the 3P+E 63 A / 690 V connector withstands **400 °C for 2 hours**. The main cable, after cutting and stripping, feeds through cable glands and is wired on steel terminals mounted on a fire rated ceramic base. The box lid is fixed to the box by means of captive stainless steel screws.

MAIN FEATURES

[Consult us](#)

Fire resistance	Electrical continuity of the main cable guaranteed to 400°C for 2 hours as the test program 5 of NF EN 12101-3 standard
Breaking capacity	AC-22 according to NF EN 60947-3
Service terminals	3 terminals usually mounted on a steel base fire
Cables accepted	Armoured and unarmoured flexible cables, from 10 mm² up to 95 mm² via terminals box side and 6 mm², 16 mm² & 35 mm² via crimping contacts plug side.
Internal and external Earth point	Inside and outside the enclosure
Ingress Protection	IP66 according to NF EN 60529
Shock resistance	IK09 according to NF EN 50102
Modularity box - Options - Other equipment	<ul style="list-style-type: none"> Auxiliary contacts



F400 WALL MOUNTING SOCKET-OUTLET

Type	CSTB Certificate	H x L x P in mm
3934013Zxxxx + 3938013Zxxxx	RS05-026	264 x 260 x 345

FIRE DEPARTMENT BOX

Security recess

Aluminium box

Especially developed in collaboration with emergency services who specialise in tunnel rescue, this box is installed in a security recess.

Completely made of aluminium, this box is composed of a back box, an inclined cover with an inspection window.

The power of this kit is carried by cables 5G16 mm² max.

The box lid is fixed to the box by means of captive stainless steel screws.

MAIN FEATURES

[Consult us](#)

Service protection	Differential circuit breaker 30 mA.
Internal and external Earth point	Inside and outside the enclosure
Ingress Protection	IP55 according to NF EN 60529
Shock resistance	IK09 according to NF EN 50102



ALUMINIUM BOX

Type	H x L x P in mm	Distribution
91277	345 x 280 x 125	One or two MARECHAL® deconnector (DS or DN) can be fit on the inclined cover



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