REPLACEMENT FOR ARISTONCAVI SUBMERSIBLE S1RN8-F | 0.6/1 kV | S1RN8-F | water-resistant rubber | 2 sizes

FC-SUB 7G 0.6/1 kV

Submersible Control Cable – water-resistant rubber compound for permanent immersion, black. FeiChun replacement for Aristoncavi SUBMERSIBLE S1RN8-F: construction, dimensions, weight, current rating, standards and installation guidance.

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01 Application and Product Overview

FC-SUB is a submersible Control Cable rated 0.6/1 kV and the FeiChun replacement for Aristoncavi SUBMERSIBLE S1RN8-F (S1RN8-F). This datasheet covers 2 sizes, 1.5 – 2.5 mm², with fine-wire class 5 copper conductors, EPR rubber compound 3GI3 to DIN VDE 0207-20 insulation and a sheath of water-resistant rubber compound for permanent immersion, black.

Typical applications

- Control and sensor circuits of submersible pumps and mixers
- Level, temperature and leakage sensors under water
- Fresh and salt water, permanent immersion
- Pump stations and water treatment plants

Design

7 numbered black cores, including one green-yellow protective core, are stranded in concentric layers. Short lay lengths and an anti-twist braid limit corkscrewing on the reel.

2 sizes	0.6/1 kV	16 A	Ø 14.9 mm
1.5 – 2.5 mm²	Rated voltage U_0/U	Current at 30 °C	Outer dimension, max

Key features

- Fine-wire class 5 tinned or bare copper conductors to IEC 60228
- EPR rubber compound 3GI3 to DIN VDE 0207-20 insulation
- Water-resistant design for immersion to 100 m
- Flame-retardant to IEC 60332-1-2; oil, ozone and UV resistant

Replacement reference

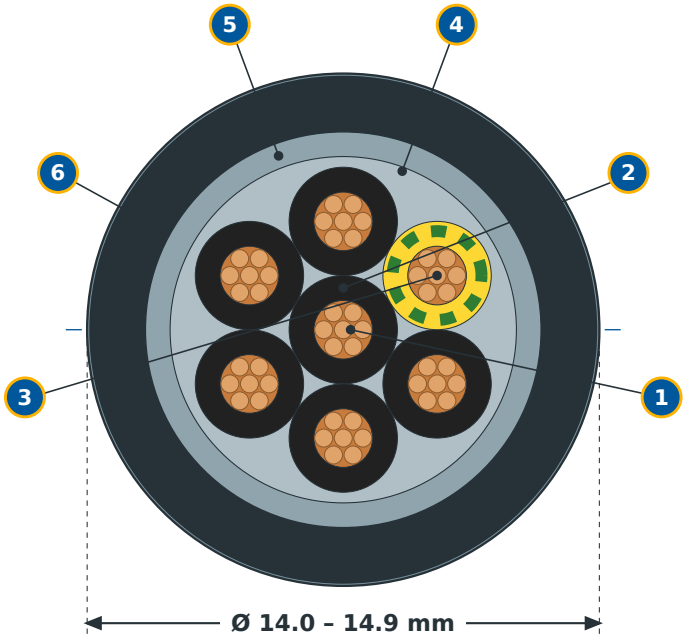
REFERENCE PRODUCT	⇄	FEICHUN REPLACEMENT
Aristoncavi SUBMERSIBLE S1RN8-F S1RN8-F		**FC-SUB 7G 0.6/1 kV** Submersible Control Cable

The FeiChun cable has the same core configuration, voltage rating and field of application as the reference product. Dimensions and weights are FeiChun design values; compare them with reels, guides and glands before direct replacement.

02 Construction

FEICHUN · CROSS-SECTION A-A · 0.6/1 kV

FC-SUB
Sample size 7G1.5 · Rev 0 · Illustrative, not to scale



No.	Component	Material
1	Conductor	Fine-wire copper, class 5 to IEC 60228
2	Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
3	Protective conductor	Green-yellow insulated copper
4	Filler and anti-twist braid	Rubber compound, polyester braid
5	Inner sheath	Rubber or elastomer compound
6	Outer sheath	Water-resistant rubber compound for permanent immersion, black

The drawing shows 7G1.5. Other sizes have the same construction with scaled dimensions.

Construction details

Conductor	Fine-wire tinned or bare copper, class 5 to IEC 60228 / DIN VDE 0295
Insulation	EPR rubber compound 3GI3 to DIN VDE 0207-20
Core identification	Black cores with white numbers; green-yellow protective core
Inner sheath	Rubber or elastomer compound
Outer sheath	Water-resistant rubber compound for permanent immersion, black

Sheath material

The water-resistant rubber sheath has low water absorption for permanent immersion in fresh and salt water.

03 Electrical, Thermal and Mechanical Data

Electrical data

Rated voltage U_0/U	0.6/1 kV AC
Test voltage	3.5 kV AC, 5 min
Current-carrying capacity	DIN VDE 0298-4, 30 °C ambient; see table
Conductor resistance	Maximum at 20 °C, class 5 to IEC 60228

Thermal and mechanical data

Maximum conductor temperature	+90 °C
Short-circuit temperature	+250 °C
Ambient temperature, fixed	-40 … +80 °C
Ambient temperature, moving	-25 … +80 °C
Minimum bending radius, moving	See table (8 × D)
Maximum tensile load	15 N/mm² of copper cross-section of the power cores
Maximum immersion depth	100 m
Maximum water temperature	+40 °C
Flame propagation	IEC 60332-1-2
Halogen-free sheath	No
Oil, ozone and UV resistance	Resistant

04 Dimensions, Weights and Ratings

Type designation	Article no.	Conductor Ø max mm	Outer Ø min mm	Outer Ø max mm	Min. bend radius mm	Weight approx. kg/km	Max. pull N	R_{20} max Ω/km	Current per core A	I_k (1 s) kA
7G1.5	FC-AR0635-7G15	1.7	14.0	14.9	120	280	158	13.3	16	0.214
7G2.5	FC-AR0635-7G25	2.2	15.5	16.5	132	376	262	7.98	22	0.357

Current-carrying capacity: design values to DIN VDE 0298-4, free air, 30 °C ambient; values per core include the derating for the number of cores. Pull force = 15 N/mm² × copper cross-section of the power cores. Dimensions and weights are nominal design values within manufacturing tolerances.

Ambient temperature factors

°C	20	25	30	35	40	45	50
Factor	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Short-circuit rating

I_k = 0.143 kA/mm² × conductor cross-section for 1 s; for duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$.

05 Selection Guide

Typical use: 7G1.5 carries 6 control circuits at up to 16 A per core; one cable of this type replaces 3 two-wire connections on the reel or festoon.

For comparison: 7G1.5 has 14.9 mm, 280 kg/km and 16 A; 7G2.5 has 16.5 mm, 376 kg/km and 22 A. Choose the smallest size whose current, after the temperature factors, covers the load.

Example. A circuit carries 17 A at 40 °C ambient. Required table current = 17 / 0.91 = 19 A, so 7G2.5 (22 A) is suitable.

06 Standards and Testing

Standard	Scope
IEC 60228 / DIN VDE 0295	Conductors, class 5
DIN VDE 0298-3	Bending radii and tensile loads
DIN VDE 0298-4	Current-carrying capacity
IEC 60332-1-2	Flame propagation, single cable
EN 50525-2-21	Rubber-insulated flexible cables (design reference)
IEC 60811-404	Mineral oil resistance

Routine and type tests

- AC voltage test on every delivery length: 3.5 kV, 5 min
- Conductor resistance, dimensions and insulation thickness
- Continuity of all conductors
- Water-tightness and insulation resistance after water immersion (type test)
- Flame propagation, IEC 60332-1-2 (type test)

Test documentation: every delivery comes with a test certificate from FeiChun’s own laboratory; third-party witnessed tests can be arranged at the buyer’s cost.

07 Installation, Marking and Delivery

Installation guidance

- Fix the cable to the riser pipe with clamps every 3 m; do not let the cable carry the pump weight.
- Seal cable ends before immersion and use joints approved for submersible service.
- Do not exceed the permitted immersion depth and water temperature.
- Check insulation resistance before commissioning and at each pump service.

Sheath marking

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FEICHUN FC-SUB 7G1.5 0.6/1 kV [year] [metre mark]
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Packing and delivery

Packing	Steel or fumigated wooden drums; cable ends sealed
Delivery length	As ordered, in one continuous length
Lead time	2–3 weeks after technical approval
Warranty	1 year, covering failures not caused by human factors
Terms	FCA buyer's nominated forwarder's warehouse in China (Incoterms 2020); prices subject to LME copper

Order example: FC-SUB 7G1.5 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F 7G1.5, 500 m on one drum. State type, cross-section, voltage, length per piece and installation conditions when requesting a quotation.

08 Certification and Quality

FeiChun holds CE (Low Voltage Directive), EAC and UKCA certificates and an ATEX documentation verification for defined product groups. Whether a certificate scope covers this construction is confirmed per project. All cable is routine-tested over 100 % of the delivered length.

09 Related Datasheets

This datasheet in Russian: FC-SUB 7G 0.6/1 kV

- FC-SUB 1× 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 2× 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 3G1.5 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 4G1.5 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 5G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 12G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 18G 0.6/1 kV – replacement for Aristoncavi SUBMERSIBLE S1RN8-F
- FC-SUB 7G 450/750 V – replacement for Aristoncavi SUBMERSIBLE H07RN8-F

Library overview: FeiChun replacements for Aristoncavi

Frequently asked questions

Can FC-SUB replace Aristoncavi SUBMERSIBLE S1RN8-F 7G1.5?
Yes. It is designed with the same core configuration, voltage rating and field of application. Compare the outer diameter, bending radius and weight with your reel, guides or glands before ordering; FeiChun confirms suitability on request.

What are the outer diameter and minimum bending radius of 7G1.5?
Outer diameter 14.0 – 14.9 mm; minimum bending radius in moving operation 120 mm (8 × D).

What current can 7G1.5 carry?
16 A in free air at 30 °C ambient per core. Apply the temperature factors in section 04.

How deep can the cable be immersed?
Up to 100 m in fresh or salt water.

Is the cable halogen-free?
No. The water-resistant rubber sheath contains halogen; a halogen-free PUR version can be offered.

10 Trademark Notice and Intellectual Property

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Document control

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