

The **DFCE** Switches are mounted on top of vessel. The inside level of liquid is checked by the float integral with a vertical rope; when level rises up to the preset height, the float makes the output device trip (*trip on rise*); when level comes down again and exceeds the preset height, the float makes the output device come back to the initial position (*reset on fall*); between the *set* and *reset* heights there is always a gap, named *differential*, of $30 \pm 10\text{mm}$. The output device is composed by an electric microswitch, is snap action and is placed in the housing. The inverse function is available too : *Trip on fall* and *Reset on rise*; it can be reversed by *Domizi Snc* or by the same installer : it is sufficient to place the pneumatic switch on the contrary within the housing.

Finish : first coat in epoxy resin and outer coat in **green** polyurethane resin, suitable for marine and tropical climates.

The Level Switches meet the ATEX standard (page 37).

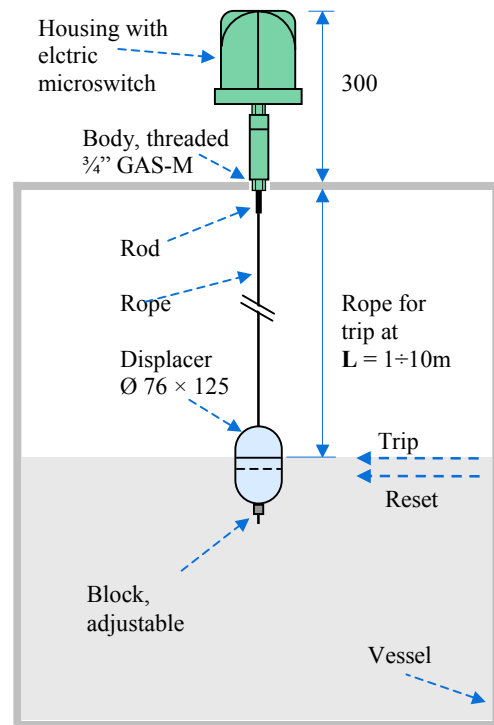
APPLICATIONS. They are fit for small and large dimensions vessels and for almost every kind of industrial liquids, where assure safety operations. Fit for pressures up to 1 Bar, and for liquids with specific gravity from 500kg/m^3 up.

Connction to vessel. *Top* mounting by threaded body $\frac{3}{4}$ " GAS-M (25mm threaded height). It can be in carbon steel, or stainless steel AISI 304 or 316. To fix the instrument, the vessel should have a handhole allowing to introduce the displacer and the rope, and to screw them onto the rod.

Rope. In stainless steel AISI 316 and flexible; its length **L** defines the trip point of the Switch, and can be chosen 1m to 10m.

The displacer $\text{Ø}76 \times 125\text{mm}$ in stainless steel AISI 316 can be fixed on the rope at the desired height, thanks to an adjustable block : in this way it is the user himself to decide the trip point.

Housing. It is in Aluminium casting. Size $\text{Ø}155 \times 200\text{mm}$, EEx dc IIC T6 flame-proof, with 1 or 2 microswitches SPDT with simultaneous action, in the versions described hereinafter and on page 34-35.



CONNECTION to vessel of DFCE in :

- AC** •• Carbon steel ⁽¹⁾
- A4** •• Stainless steel AISI 304
- A6** •• " " AISI 316
- XB** Threaded $\frac{3}{4}$ " GAS-M

HOUSING (page 34-35) :

Electric or pneumatic output :

- Number of electric outputs : 1 or 2 microswitches SPDT with simultaneous action
- A** • Microswitch, dust-proof 6A – 24Vdc, silver contact ⁽¹⁾ ⁽²⁾
- B** • " " " 6A res – 5A ind – 30Vdc, silver contact ⁽³⁾
- Q** • " " " 1mA–5Vdc(min value), 1A–125Vac(max value), gold contact ⁽⁴⁾
- R** • " " " sealed in inert gas, 3A res–1,5A ind–30Vdc, silver contact ⁽⁵⁾
- Z** • " " " " 1mA–5Vdc(min), 0,5A–30Vdc(max), gold contact ⁽⁶⁾
- A** Hole for electric connection, threaded $\frac{1}{2}$ " NPT-F for cable-gland (not supplied)
- B** " " " " $\frac{3}{4}$ " NPT-F, " " (not supplied) ⁽¹⁾

ROPE for trip at L :

1	1m	2	2m	3	3m	4	4m	5	5m
6	6m	7	7m	8	8m	9	9m	D	10m

Upon request, we can produce :

- Switches in special version, as per page 18.
- Switches like DFCE, but with pneumatic output, as per the **DFCG** a page. 15.

DFCE-

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 Short description

In addition to the above Short description, *Domizi Snc* need also the following information, absolutely necessary.

Fluid :	upper :	.....	Specific gravity of fluid :	upper :	.....	kg/m ³
	lower :	.....	" " " " "	lower :	.....	kg/m ³
Temperature :	Minimum	..... °C	Operating	..... °C	Maximum	..... °C
Pressure :	Minimum	..... bar (*)	Operating	..... bar (*)	Maximum	..... bar (*)
Instrument function :					Other :

(*) Simplify : 15bar ~ 15atm ~ 15kg/cm² ~ 15KPa ~ 1,5Mpa

(1) – It is the standard option.
 (2) – Micro A : also 6A resistive – 250Vac; temperatures of : -25/+85°C.
 (3) – Micro B : also 15A resistive – 3A inductive – 250Vac; temperatures of : -25/+80°C.
 (4) – Micro Q : also 1A – 125Vac, but is recommended for very low electric loads (e.g. insulating barriers with few mA and V); temperatures of : -55/+85°C.
 (5) – Micro R : also 1A resistive – 0,8A inductive – 220Vac; temperatures of : -55/+150°C.
 (6) – Micro Z : recommended for very low electric loads (e.g. insulating barriers with few mA and V); temperatures of : -55/+150°C.

LEVEL SWITCHES Type DFCE in some special versions

For particular applications *Domizi Snc* can produce **DFCE** Switches in special versions too; here are some of possible versions.

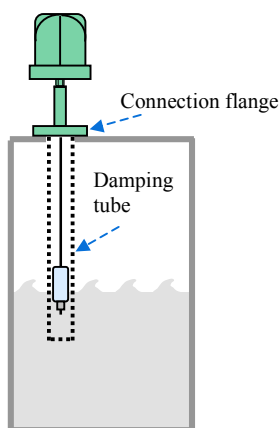
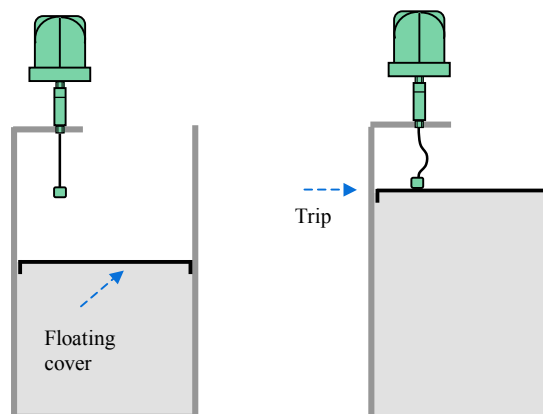
DFCE for floating covers, in TG version

When switches are mounted on vessels in which the liquid is protected by a *floating cover*, displacer is replaced by a solid body with similar weight as displacer's.

When the body is lifted by floating cover, it makes the output microswitch trip.

APPLICATIONS. Trip for *High or Low level*, with the same performances as DFCE.

Would you see the type DFCE too herein in before.



DFCE with damping tube, in TC version

When switch is mounted on vessels with liquids subject to *turbulence*, we recommend to protect the displacer within a *damping tube*, in order to avoid untimely trips. Usually such a tube is procured and mounted by the same vessel installer, or, upon request, can be supplied by *Domizi Snc* already assembled on Switch together with connection flange.

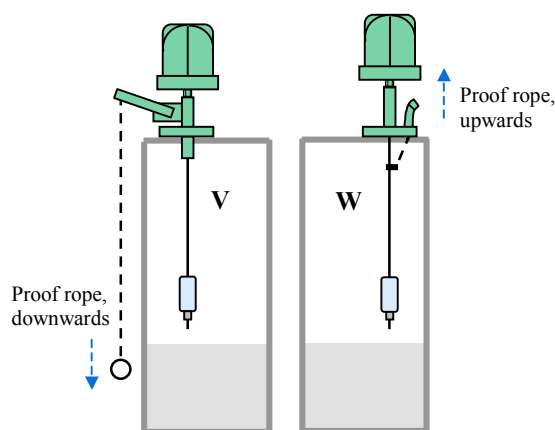
APPLICATIONS. Trip for *High or Low level, pump On/Off turning*, etc, as for all the DFCE switches.

DFCE with proof rope, in V, W version

For where you have to periodically check the efficiency of the whole group of actuators present in a system, you may use DFCE provided with *proof rope*.

Efficiency is checked by simulating the Level Switch trip : the float is lifted by pulling the rope, or downwards (e.g. vessels being on ground) or upwards (e.g. vessels being under ground).

APPLICATIONS. Trip for *High level, pump On/Off turning*, etc, as for all the DFCE switches..



The *Short description of the special versions can be composed as follows:*

- Switches for *Floating covers* : . . . **DFCE-TG**
 - Switches with *Damping tube* : . . . **DFCE-TC**
 - Switches with *Proof rope V* : . . . **DFCE-V**
 - Switches with *Proof rope W* : . . . **DFCE-W**
- [] - [] - []
- To be filled as on page 17

NOTES • The final special version is studied on the customer's needs basis.
• The special versions can be combined between them, e.g. Switch with *Damping tube* and *Proof rope*.