



## **Surge protection for lifts**

The function of lifts is to transport persons and goods in private and commercial buildings. Hydraulic lifts are frequently used for low lifting heights, otherwise counterbalanced cable lifts are used. Passenger lifts have a speed of about 1 m/s and higher (medium-sized buildings/multi-storey buildings up to 8 m/s and next generation of multi-storey buildings up to 17 m/s). Goods lifts have transportation capacities up to 5 tonnes.

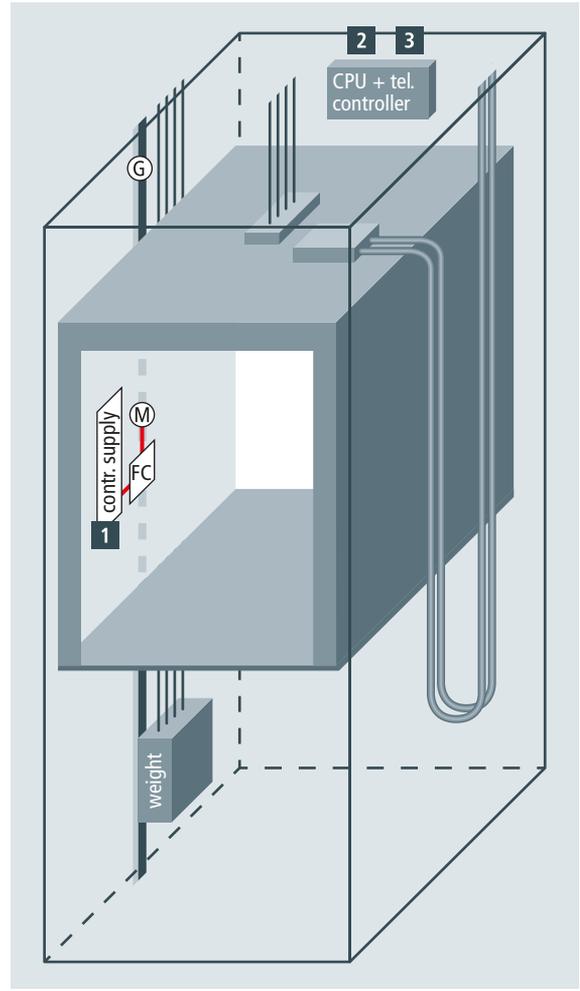
Lifts fulfil several functions such as:

- ➔ Smooth starting and stopping controlled by a frequency converter
- ➔ Traffic optimisation measures (e.g. no stop in case of full load, priority travels, behaviour of lifts in case of fire)
- ➔ Energy saving function (cabin lighting and ventilator are switched off in case of empty travels or standstill)
- ➔ Power supply function (the kinetic energy generated by goods transport to the ground floor and empty travels to the top floors is fed into the power supply system)

These functions can only be fulfilled by means of highly sensitive electronic systems.

Lift manufacturers take various measures to reduce injection into the lift cabling/technology to an acceptable level. Be it shielded metallic distribution boards or the type of cable routing or cable – all these measures cannot prevent that conducted transients damage the lift.

The peripheral units of lifts such as floor panels or floor displays are connected to prewired plug-in connecting cables. Thus, surge protective devices are only required for the mains connection, the telephone line and the fire alarm system, if any (Figure 9.26.1).



	Use	Type	Part No.
1	TN-S system TT system	DG M TNS 275 DG M TT 275	952 400 952 310
2	Telephone $U_{K0}$ / extension	BXT ML2 BD 180 + BXT BAS	920 247 920 300
3	Fire control panel ➔ PLC	BXT ML2 BE S 24 + BXT BAS	920 224 920 300

Figure 9.26.1 Surge protective devices for a lift