SMART BULB
PRECISION IN FIRE PROTECTION

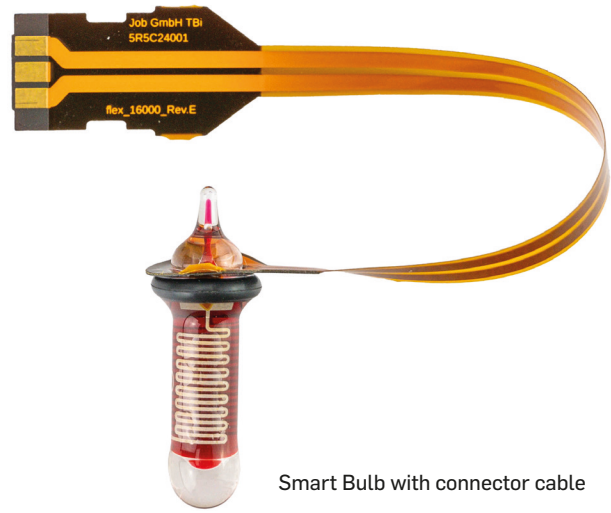
Simply. More. Safety.

SMART ACTIVATION

Smart bulb technology solves these problems through **Smart Activation**:

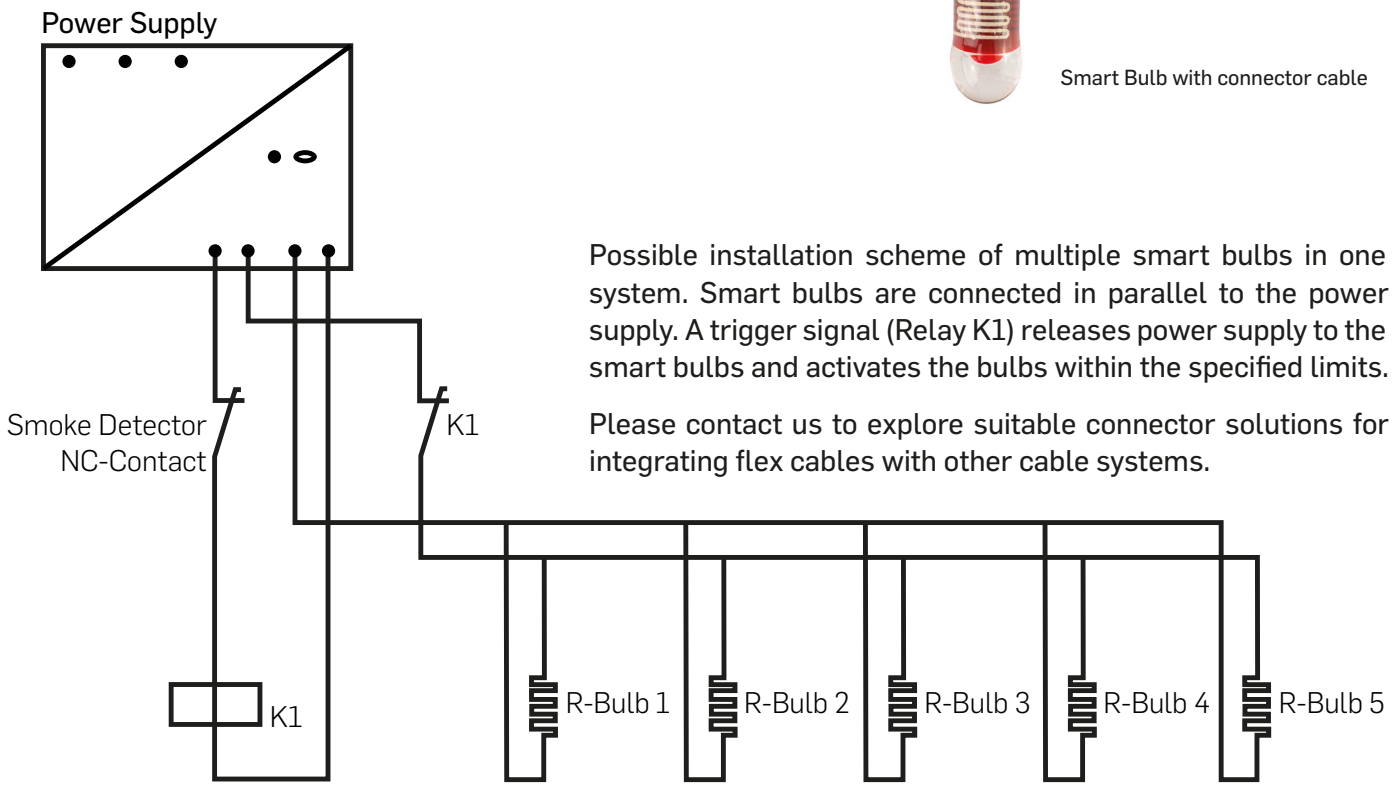
- **Targeted activation:** Only the sprinklers in the immediate vicinity of the fire are activated.
- **No delay in activation:** Electrical activation eliminates delays while heat builds up.
- **Hydraulic optimisation:** Systems can be smaller because less water is needed at any one time.
- **Logging:** Records the exact activation time and position of each sprinkler.
- **Backup function:** In the event of a power failure, the Smart Bulb can still be activated by heat, as a conventional sprinkler would.

The result: faster containment, lower water consumption, less damage.



Smart Bulb with connector cable

SYSTEM DIAGRAM



Possible installation scheme of multiple smart bulbs in one system. Smart bulbs are connected in parallel to the power supply. A trigger signal (Relay K1) releases power supply to the smart bulbs and activates the bulbs within the specified limits.

Please contact us to explore suitable connector solutions for integrating flex cables with other cable systems.

SMART BULB

Redefining sprinkler technology with a two-way activation glass ampoule. From the outside, it looks rather unremarkable – a small glass bulb, barely larger than a finger. But the new Smart Bulb from JOB fundamentally changes fire protection.

THE CHALLENGE

Conventional thermally activated glass bulb sprinkler systems are a proven and widely used standard in fire protection. However, they respond exclusively to local temperature increases.

This results in several limitations: no targeted activation of individual sprinklers; delayed response in adjacent areas; no record of which sprinkler activated or when; and no integration into digital monitoring and control systems.

Modern, connected buildings, however, require faster, more precise, and more transparent fire suppression solutions.

THE SOLUTION

The latest innovation from the JOB Group is a glass ampoule with two-way activation – triggered thermally and electrically. Electrical monitoring directly identifies which glass ampoule was triggered, when, and where.

- A wafer-thin heating wire is located on the glass bulb.
- The sprinklers are connected to the fire alarm control panel via a release module.
- When a fire is detected, the control panel sends an electrical impulse to specific sprinklers.
- The heating wire heats the bulb, causing it to burst and the sprinkler to activate, all within just a few seconds.

This transforms a passive extinguishing system into an actively controlled one. Each individual sprinkler can be monitored, controlled, and electrically activated.

BULB DIMENSIONS

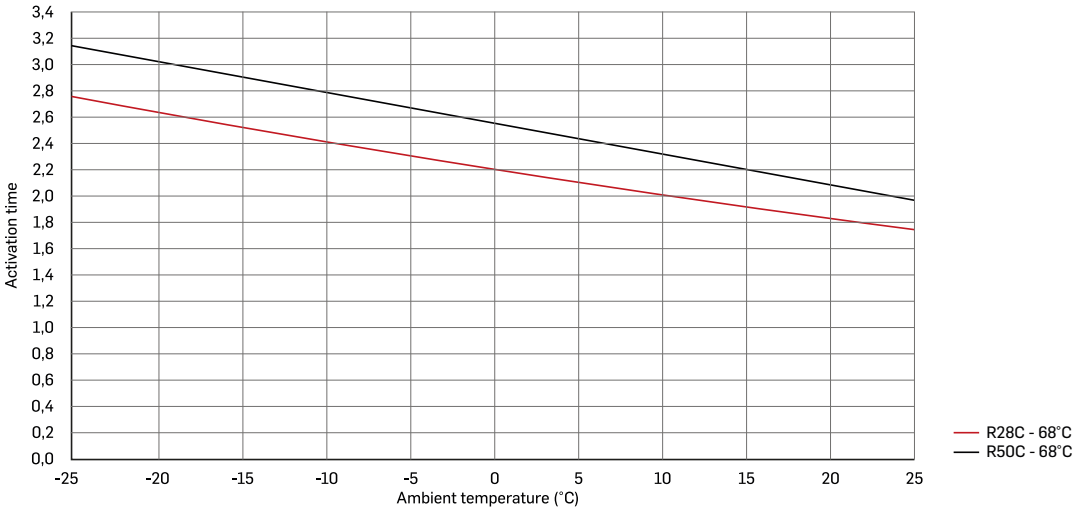
			Strength [kN]			Temperature [°C]				
Type	Nom. Diameter	Length of connection cable	average crush load	lower tolerance limit	min. crush load	57°C	68°C	79°C	93°C	141°C
R28C	3mm	85mm / 250mm	4,1	2,3	2,7					
R50C	5mm	85mm / 250mm	4,0	2,5	3,0					

ELECTRICAL PROPERTIES

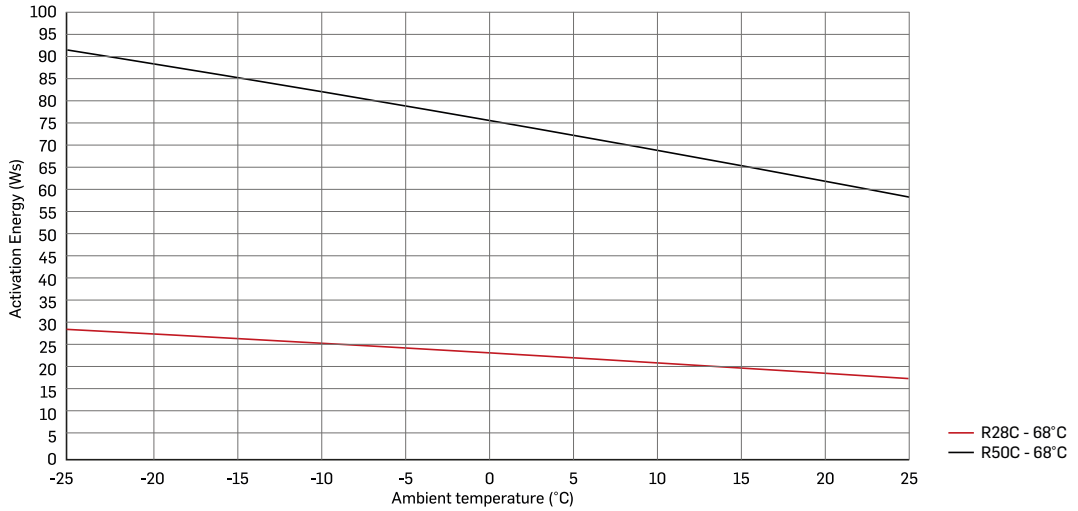
Type	release voltage at 25°C	resistance of the ampoules [Ohm]	release current [A]	max. initiation current [A]	cable resistance [Ω] (cable length 250mm)	max. perm. monitoring current [mA]	max. release time at 1A / 0°C [s]
R28C	9,0-12,0	7 - 13	0,9 – 1,1	2,0	0,4	10	5
R50C	22,0-26,0	10 - 17	0,9 – 1,1	2,6	0,4	10	5

Information on installation temperatures (min. / max.) on request.

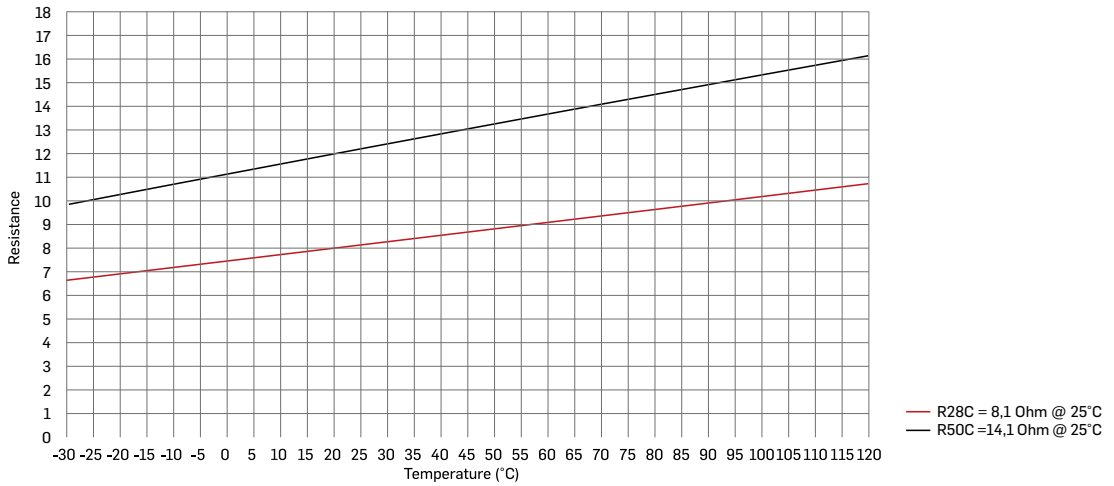
ACTIVATION TIME



ACTIVATION ENERGY



R-BULB RESISTANCE



Values in diagrams are only for reference. Actual values can vary depending on test conditions.

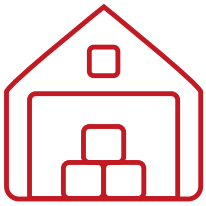
AREAS OF APPLICATION

MUSEUMS

CHEMICAL INDUSTRY

PHARMACEUTICAL INDUSTRY

WAREHOUSES



HIGH-RISE BUILDINGS

DATA CENTRES

„We wanted to elevate the sprinkler from its passive role and integrate it into an intelligent, networked fire protection concept.“

Jürgen Teschner,
Chief Marketing and Sales Officer

CUSTOMER SUPPORT

Our qualified engineers assist customers utilising JOB Thermo Bulbs to solve all kinds of technical questions either from the head office in Germany or – if necessary – they also visit customer facilities.

JOB offers equipment to unpack the Thermo Bulbs out of the Bulb tape. Furthermore JOB provides equipment to carry out the final tests at the end user‘s site. The thermal bath test equipment is adapted to the ISO standard and is used in the laboratories of UL, FM, VdS and TFRI. The final test of the assembled sprinkler at the BITE machine detects every possible damage of the glass bulb that could occur during the assembly procedure and is accepted by approval agencies to carry out the final integrity test required in approval standards.

JOB is a member of NPFA, IFSA, EFSN, NFSA and AFSE and participates in ISO, CEN, DIN and UL task groups.

For any questions or inquiries, please feel free to contact us at sales@job-group.com

www.job-group.com/en/products/job-thermo-bulbs

JOB GmbH

Kurt-Fischer-Straße 30 • 22926 Ahrensburg • Germany
info@job-group.com • www.job-group.com