Access permission and operating mode selection – combined in one system!

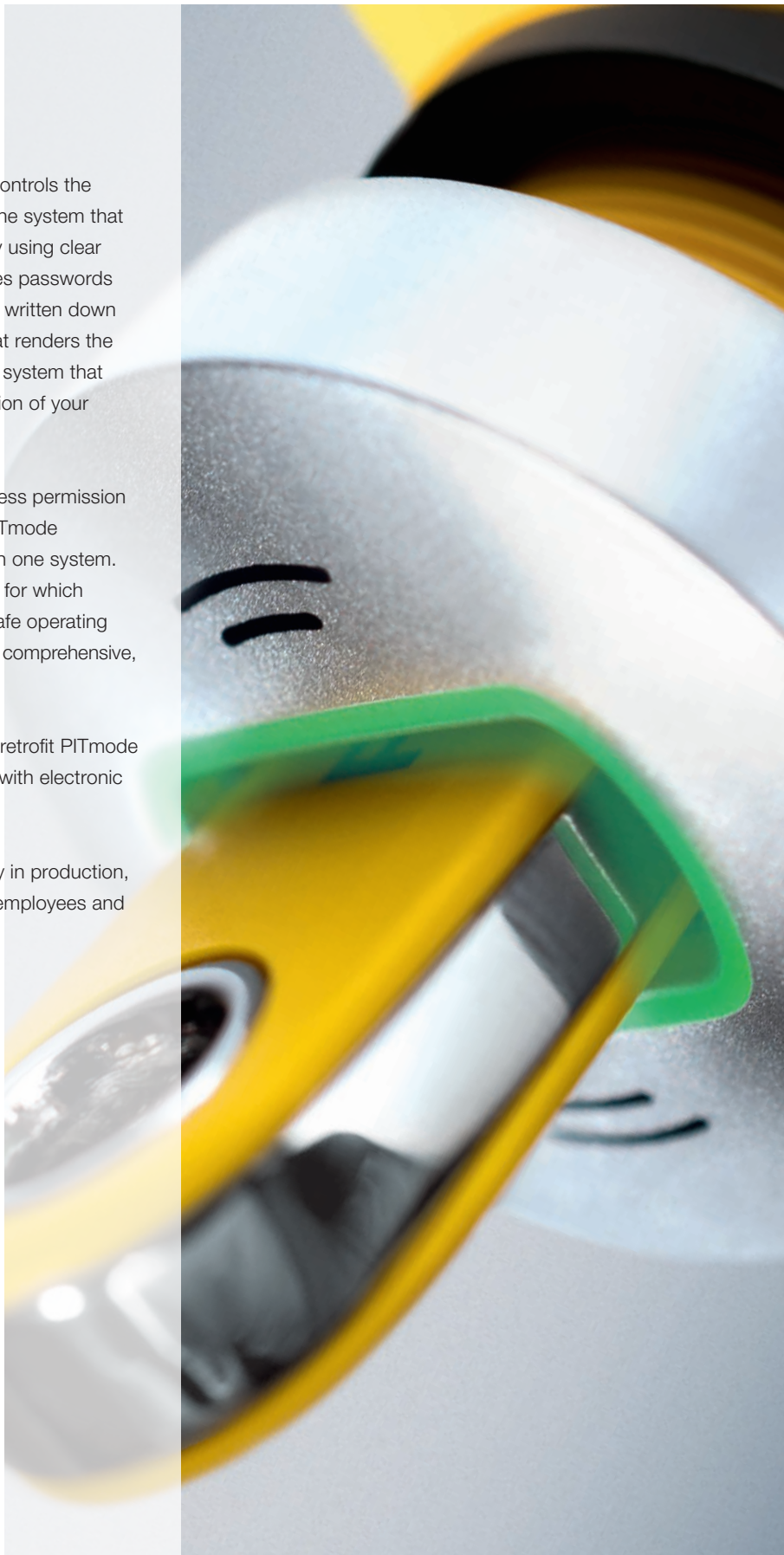
Now available!

Imagine having one system that clearly controls the access permissions for your machine. One system that allows your employees to avoid errors by using clear permission levels. One system that makes passwords that are hard to remember or need to be written down somewhere superfluous. One system that renders the use of countless keys unnecessary. One system that also enables safe operating mode selection of your machine.

All this is now possible! The modern access permission and operating mode selection system PITmode combines security and safety functions in one system. It can be used in all plant and machinery for which different access rights and functionally safe operating modes are needed. Both features require comprehensive, tamper-proof permission management.

As the machine operator, you can easily retrofit PITmode solutions and replace your existing keys with electronic transponder keys.

Prevent organisational issues, particularly in production, and ensure safe plants. To protect your employees and increase your productivity.



PILZ
THE SPIRIT OF SAFETY

One system for security and safety

Where German only has the one word, “Sicherheit”, English clearly differentiates between “security” and “safety”. Security is understood to mean the protection of machinery from people, such as protection against unauthorised access and incorrect operation. Safety, on the other hand, means the protection of people from machinery, e.g. protection against injury caused by moving machine parts. With the PITmode product range, both are possible:

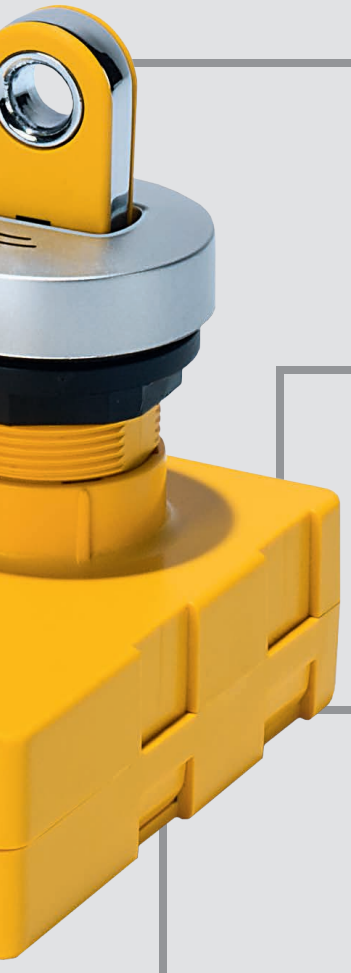
Security via access permissions and safety with operating mode selection.

Fully controllable multicolour LED ring for feedback

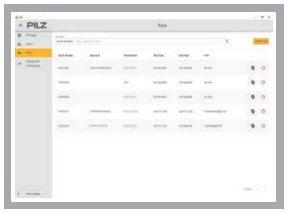
Programming of all functions via secure integrated web server

Serial interface for connection to PIT m4 SEU, 24 V output for signalling

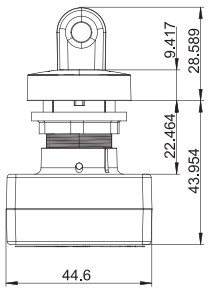
Ethernet interface Modbus/TCP and REST API, transfer of permissions and access to web server



Authentication via freely writeable transponder key in RFID technology



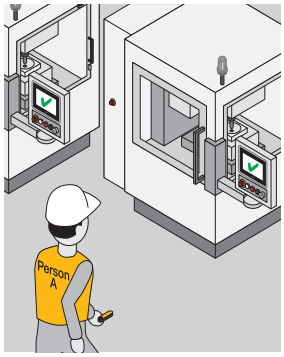
Easy management of users and transponder keys using the Equipment & User Manager



Standard installation diameter of 22.5 mm and small installation depth of just 45 mm

Certified security chip integrated: MIFARE Plus EV1 from NXP

PITreader – one access permission system, many fu

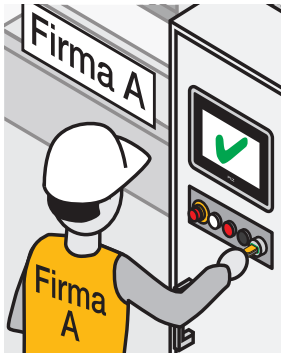


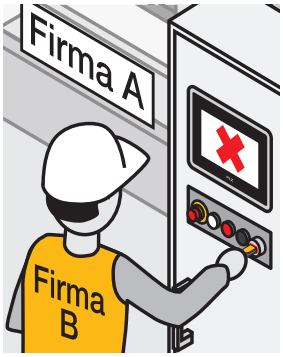
Group-based rights management

Thanks to the group-based rights management, it is possible to store permissions for certain machine types or device groups for machinery on the key. The structured permission concept provides clear permission levels and responsibilities, meaning only authorised and instructed users have access. Clearly defined responsibilities prevent errors and increase productivity. There are a total of 64 permission levels, of which five or eight can be used for the operating mode selection.

Customisation for users

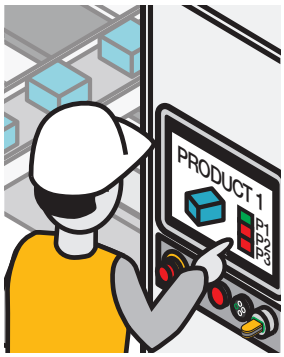
With personalised keys, each user can enable exactly those functions for which he is qualified and authorised on the key. A customised key uniquely identifies each user. The machine and plant operator thus has access to manageable, language-dependent operating menus in the HMI. The operator can now see the functions enabled for him. This considerably increases the identification with the process and significantly reduces the frequency of errors. The omission of non-personalised, well-known passwords saves time when logging in and increased productivity.





Company-specific coding

A special signature is generated in the PITreader by inputting an identifier in the integrated web server. This tamper-proof signature is stored in the internal security chip from MIFARE. This enables the creation of company or plant-specific PITreaders, for example. All transponder keys not taught in can be blocked from the outset. Only taught transponders that the system recognises have a basic access right to coded PITreaders.



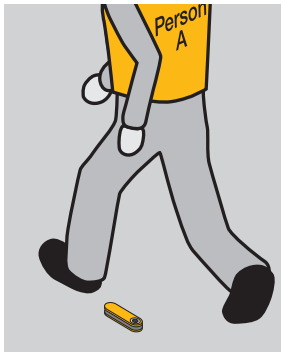
Simple recipe management

Recipe management tasks can be implemented with the contents of the transponder keys. Different keys can thus be used to easily initiate a quick change between different manufacturing products. Technical settings of the plant and machinery can also be adapted using preconfigured keys. This enables a seamless switchover of production batches, for example. This directly contributes to reducing setup times while at the same time increasing the quality of production.

nctions

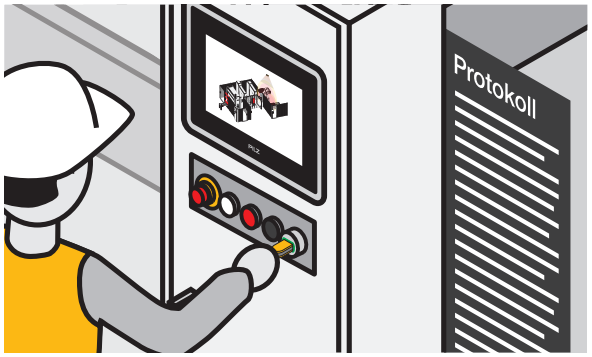
Blacklist for keys

Transponder keys can be added to a so-called blacklist. Keys on the blacklist stored in the PITreader are blocked for further use. This measure protects against unauthorised access, if for example, a key was lost or someone did not return a transponder key. Full control via the permission management is thus guaranteed at all times. Unwanted access is avoided and tampering attempts are prevented. Plant and machinery are efficiently protected.



Recording of key actions (audit trail)

The recording function integrated in the PITreader makes it possible to record access to plant and machinery in a personalised manner as well as all processes. The non-modifiable, tamper-proof documentation of all transponder actions enables simple traceability in the event of incorrect operation, accidents, failures or during plant diagnostics. Performed actions can be clearly assigned to a user. Downtime can also be easily deduced thanks to performance indicators. If recording is not allowed for operational reasons, the function can be switched off or only non-personalised key actions can be logged.

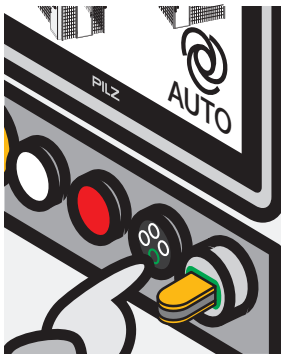


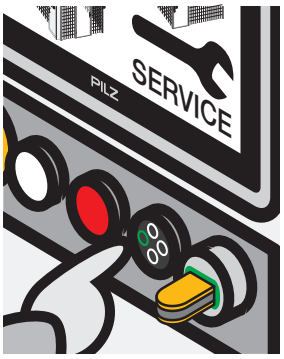
Temporary permission

Using the temporary permission and the validity date for keys, access can be limited at any time. Access is only achieved in the intended scope of application. There is the option of storing a start or end date. The validity can be based on a starting time, end time or a time period. Transponder keys have no permissions outside of the period of validity and are blocked on the PITreader. The function is used for processes, for example, in which certificates expire or annual checks are performed. The temporary permission can also be used for rental and leasing relationships. Individual days can also be enabled as the smallest unit for certain service activities.

Safe operating mode selection

Operating mode selection is part of the functional safety if it switches over between different safety levels and safety functions. The safe evaluation unit/ FS controller detects the specified operating modes such as automatic or service mode, evaluates them and enables a functionally safe switchover of the operating modes. This makes it possible to prevent incorrect operation and manipulation. Human and machine are ideally protected thanks to functionally safe switching of the operating mode through self-monitoring up to PL d of EN ISO 13849-1. Can be connected to all FS controllers.

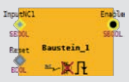




Solutions for operating mode selection with the PITreader

The devices and solutions from the PITmode product range can be used in plant and machinery in which different control sequences and safe operating modes must be switched (to PL d Cat 3 of EN ISO 13849-1/SIL CL 2 of EN 62061). Each employee can be issued machine enables and permissions that correspond to their qualifications using coded RFID transponder keys.

Solutions for operating mode selection with the PITreader

Type	**PITreader –** access management	**PITmode –** access management and functionally safe operating mode selection					
Solution package	**PITreader**	**PITmode m3.xp**	**PITmode fusion**	**PITmode flex**		**PITmode flex visu**	
Access device							
Input	-	2/4 integrated LED push-buttons					
Operating mode evaluation	-	Integrated		FS software blocks in Pilz controllers 		FS software blocks in Pilz controllers 	
FS controller	-	All	All				
Connectable PITreader	-	-	1	Up to 4	Up to 10	Up to 4	Up to 10
Write key	Yes	No	Yes	Yes		Yes	
Operating modes	-	Up to 5	Up to 5	Up to 8		Up to 8	
Workspaces	-	1	1	Up to 10		Up to 10	
Usage	Industrial access management	▸ Safe operating mode selection ▸ Stand-alone machines	▸ Industrial access management ▸ Safe operating mode selection ▸ Stand-alone machines	▸ Industrial access management ▸ Safe operating mode selection ▸ Applications with several workspaces ▸ Connected machines		▸ Industrial access management ▸ Safe operating mode selection ▸ Applications with several workspaces ▸ Complex, linked machines	

PITmode solutions and components


PITreader base unit


PITreader key adapter h


PITreader key ye 1


PITgatebox


PITmode


PIT oe 4S


PMI v707


PIT m4SEU


PNOZ m B1


PSSu H PLC


PITmode fusion

Components of the system

Technical features	▸ 13.56 MHz RFID technology ▸ Ethernet interface: Modbus TCP protocol ▸ 24 V output for signalling ▸ Standard diameter: 22.5 mm ▸ Safe operating mode selection up to PL d ▸ Certifications: CE, UL	
PITreader	▸ PITreader base unit (required accessories: PITreader key adapter) ▸ PITreader key adapter h (required accessory for PITreader base unit)	402 255 402 308
PITreader key	Transponder key: ▸ PITreader key ye g – generic ▸ PITreader key ye 1 – permission 1 (inscription “1”) ▸ PITreader key ye 2 – permission 2 (inscription “2”) ▸ PITreader key ye 3 – permission 3 (inscription “3”) ▸ PITreader key ye 4 – permission 4 (inscription “4”) ▸ PITreader key ye 5 – permission 5 (inscription “5”) ▸ PITreader key ye 5 service – permission 5 service function (inscription of service logo) Inscription on all keys: 2D code, serial number	 402 260 402 261 402 262 402 263 402 264 402 265 402 269
PITgatebox	▸ Pushbutton unit PITgatebox with integrated PITreader	G1000020 G1000021
PITmode	▸ Operating mode selector switch PIT m 3.2 p (other versions and keys available) ▸ 4 buttons with digits	402 230
PIToperation-elements	▸ PIT oe 4S (control and signal device with 4 LED pushbuttons)	402 311
PMIvisu	Operator terminals PMI: ▸ PMI v704 – PMI 4" with integrated visualisation software PASvisu ▸ PMI v707 – PMI 7" with integrated visualisation software PASvisu ▸ PMI v807 – PMI 7" with integrated visualisation software PASvisu ▸ PMI v812 – PMI 12.1" with integrated visualisation software PASvisu ▸ PMI v815 – PMI 15” with integrated visualisation software PASvisu	 266 704 266 707 266 807 266 812 266 815
PITmode safe evaluation unit	▸ PIT m4SEU – safe evaluation unit for operating mode selection ▸ PIT m4SEU terminal set spring load – connector set for PIT m4SEU	402 250 402 306
PNOZmulti	▸ PNOZ m B1 and input/output modules – configurable safety system ▸ Components are application-dependent	
PSS 4000	▸ PSSu H PLC and input/output modules – safe automation system ▸ Components are application-dependent	

Optional accessories

Optional accessories	▸ PITreader nut set – 10 x nut for PITreader key adapter ▸ PIT es wrench – installation wrench ▸ PITreader connector spring load	402 310 400 222 402 307

Ready-made set

PITmode fusion	▸ PITmode fusion – bundled authentication and functionally safe operating mode selection system in a set comprising: PITreader base unit, PIT m4SEU, PITreader key adapter h, connector set PIT m4SEU	402 251

Support

Technical support is available from Pilz round the clock.

Americas
Brazil
+55 11 97569-2804
Canada
+1 888 315 7459
Mexico
+52 55 5572 1300
USA (toll-free)
+1 877-PILZUSA (745-9872)

Asia
China
+86 21 60880878-216
Japan
+81 45 471-2281
South Korea
+82 31 778 3300

Australia and Oceania
Australia
+61 3 95600621
New Zealand
+64 9 6345350

Europe
Austria
+43 1 7986263-0
Belgium, Luxembourg
+32 9 3217570
France
+33 3 88104003
Germany
+49 711 3409-444
Ireland
+353 21 4804983
Italy, Malta
+39 0362 1826711
Scandinavia
+45 74436332
Spain
+34 938497433
Switzerland
+41 62 88979-32
The Netherlands
+31 347 320477
Turkey
+90 216 5775552
United Kingdom
+44 1536 462203

You can reach our international hotline on:
+49 711 3409-222
support@pilz.com

Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.

BLUeCOMPETENCE Alliance Member
Partner of the Engineering Industry Sustainability Initiative

Presented by:

We are represented internationally. Please refer to our homepage www.pilz.com for further details or contact our headquarters.

Headquarters: Pilz GmbH & Co. KG, Felix-Wankel-Straße 2, 73760 Ostfildern, Germany
Telephone: +49 711 3409-0, Telefax: +49 711 3409-133, E-Mail: info@pilz.com, Internet: www.pilz.com

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