Making our world more productive

DIGIGAS®

Smart gas management system

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What is it?

Linde's DIGIGAS smart gas management system is a smart gas contents measurement system for both manifolds and regulators designed specifically to simplify gas management. This cost-effective solution digitalises cylinders by simply connecting them to the DIGIGAS smart contents platform.

Benefits

- Instant access to gas content levels through transparent, cloud-enabled dashboard
- Cost/time savings with hands-off remote monitoring/ management of cylinder holdings
- Continuity of supply for process-critical applications thanks to customisable email or SMS notifications once gas levels fall below a set level
- Simple to install – the DIGIGAS system can be easily retrofitted to existing or new manifolds or regulators
- Easy to deploy – Linde experts can help set up and configure the service
- Easy to maintain – smart sensors with long-lasting battery only need to be replaced as part of the planned manifold or regulator maintenance schedule. Battery life in excess of five years

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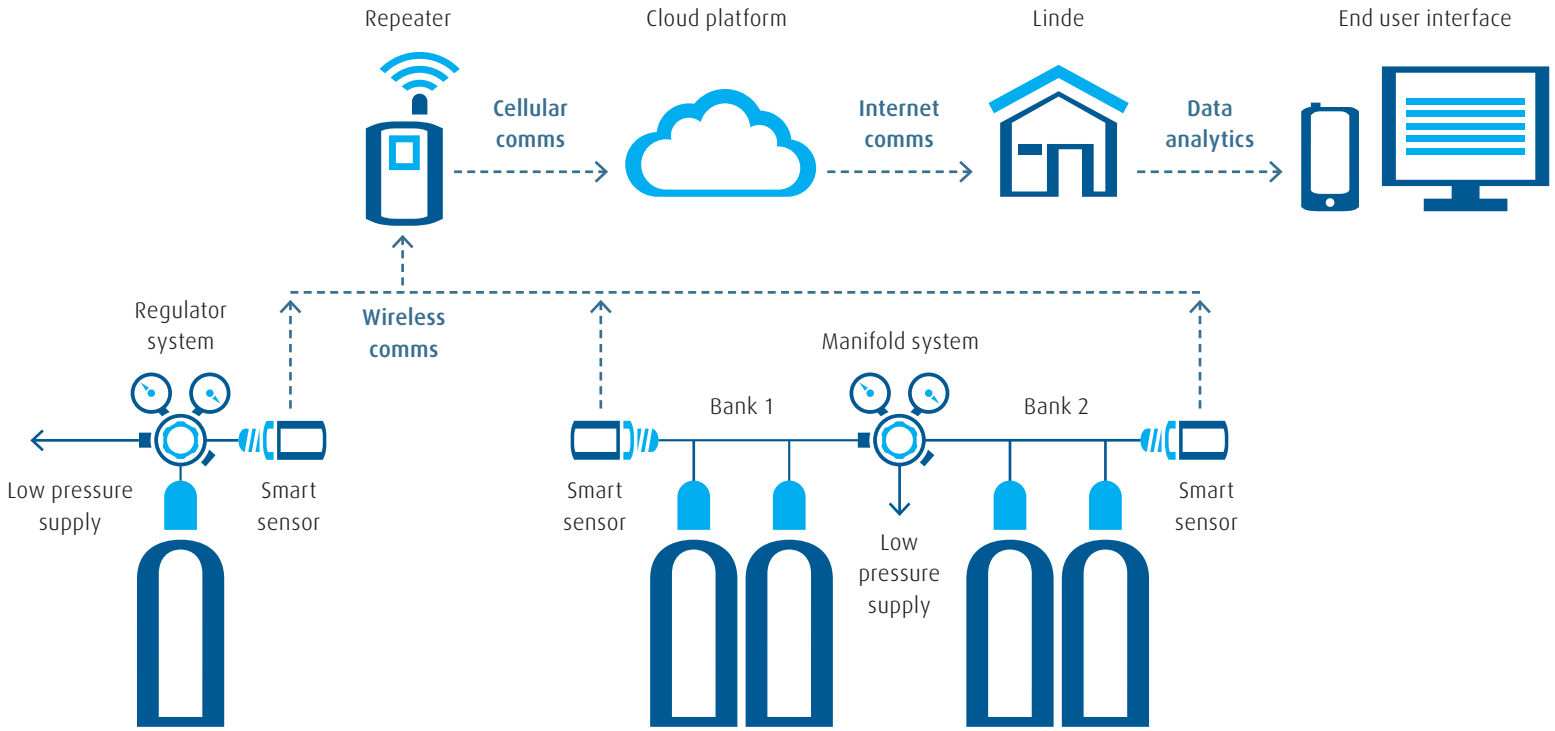
How does it work? – A simple explanation

Screw the smart sensor in to the high pressure blanking port on each bank of your manifold or to your regulator either using our smart sensor adaptor, or via your high pressure ports, it will measure the pressure and temperature and send the data wirelessly to the repeater.

Then what happens?
The repeater then sends this data to the cloud via a mobile connection. The data is then analysed and converted into a percentage full contents level and displayed on your computer or any web connected device. From there you can set customisable notifications via email and/or SMS.



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The clever stuff – detailed explanation

Smart sensor

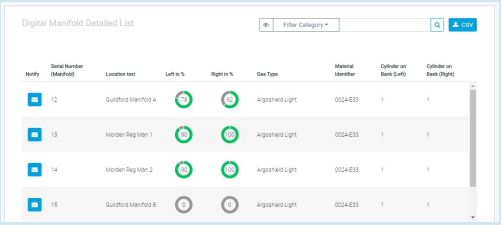
- 5 year battery life
- Cache memory to store data until it can connect to a repeater

Repeater

- Connects to any sensor in range, up to 256 sensors

Cloud analysis

- Converts data to % contents full and confirm system healthy



- View your cylinder contents from any web connected device and manage notifications

Our smart sensors come in ¼" NPT as well as parallel threads to suit your manifold or regulator blanking ports. If you do not have a spare port on your regulator or do not want to modify it, then a smart sensor adapter can be purchased which fits between your cylinder and your regulator. Alternatively, a tee piece can be fitted into the high pressure gauge port to include the sensor and gauge.[1]

The smart sensor will transmit the pressure and temperature data wirelessly every time there is a 4 bar pressure change. If it cannot communicate with the repeater, it has its own cache memory and will hold that data until it can communicate with the repeater. The smart sensor also sends a daily heartbeat signal to the repeater and onto the cloud letting the system and you know everything is working correctly.

The repeater is not tied to any of the sensors and any repeater in range of a smart sensor can collect the data and send onto the cloud. So, if you move your cylinder with regulator to another room that has a repeater fitted it will automatically connect and start communication.

Each user has its own customisable notifications which can be emailed or sent via SMS to them. They can select how often they want the notification sent once setpoint has been passed and they can easily enable or disable the notification.

[1] Authorisation from your regulator manufacturer should be sort before modifying your regulator with our Smart sensor.

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Setting up in four simple steps

Step 1

Plug your repeater into the mains and affix to a wall using sticky pads within 10 to 15 m of the sensor.[1]

Step 2

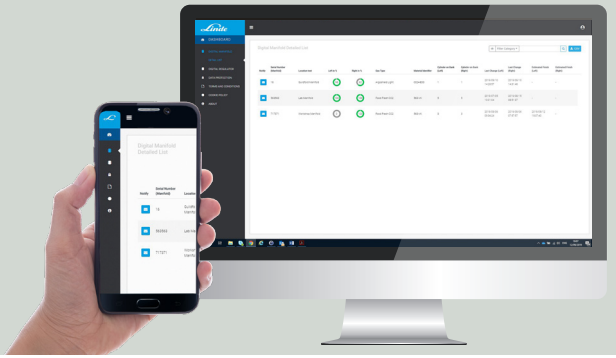
Screw the smart sensor into the high pressure blank port on each bank of your manifold or to your regulator, either using our smart sensor adaptor, or via your high pressure port.[2]

Step 3 – carried out by Linde engineers

Linde's DIGIGAS team will scan the QR Code on the smart sensor and input cylinder gas data using the installation app either at your site or remotely.

Step 4

You can now start viewing your gas contents data and setting and receiving notifications.



[1] 10 to 15 m in line of sight. This distance may reduce based on any obstacles between sensor and the repeater.
[2] A simple Tee-piece can be used if your high pressure port is already being used to include the smart sensor.

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Web based user screen

When logging into the web-based DIGIGAS portal this is the screen you will be presented with.

Set personal notifications if contents fall below your chosen setpoint.

Add the location of your regulator/manifold.

How many cylinders you have in each bank if sensor is fitted on a manifold.

Notify	Serial Number (Manifold)	Location text	Left in %	Right in %	Gas Type	Material Identifier	Cylinder on Bank (Left)	Cylinder on Bank (Right)	Last Change (Left)	Last Change (Right)	Estimated Finish (Left)	Estimated Finish (Right)
✉	16	Weldshop Manifold	98	62	Argoshield Light	0024-E33	1	1	2019/06/06 12:50:21	2019/06/06 12:49:30	-	-
✉	31468	Laboratory	0	88	Pureshield Argon	11-W	4	4	2019/05/31 10:18:15	2019/05/31 10:19:57	2019/06/19 16:43:54	2020/09/04 01:54:42
✉	100003	Storage chemical site	100	32	Carbon Monoxide	294703-AL	4	4	2019/06/19 15:49:26	2019/06/19 15:42:58	-	2019/06/23 18:00:53
✉	100005	Gas Store	0	3	Methane	294703-WL	1	1	2019/06/19 11:47:47	2019/06/19 15:37:47	-	-

Free text to add your regulator/manifold serial number.

See your contents percentage in both banks of your manifold along with gas type and Linde material code (just one of these contents shown if installed on a regulator).

When using on a manifold it even tells you when you switched banks over and, based on current usage, when it estimates each bank will run out.

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By selecting the email icon you can choose your minimum cylinder contents and set how frequently you would like to be sent an email or SMS.

Notify	Serial Number (Manifold)	Location text	Left in %	Right in %	Gas Type	Material Identifier	Cylinder on Bank (Left)	Cylinder on Bank (Right)	Last Change (Left)	Last Change (Right)	Estimated Finish (Left)	Estimated Finish (Right)
	16	Weldshop Manifold	98	62	Argoshield Light	0024-E33	1	1	2019/06/06 12:50:21	2019/06/06 12:49:30	-	-
	31468	Laboratory	0	88	Pureshield Argon	11-W	4	4	2019/05/31 10:18:15	2019/05/31 10:19:57	2019/06/19 16:43:54	2020/09/04 01:54:42
	100003	Storage chemical site	100	32	Carbon Monoxide	294703-AL	4	4	2019/06/19 15:49:26	2019/06/19 15:42:58	-	2019/06/23 18:00:53
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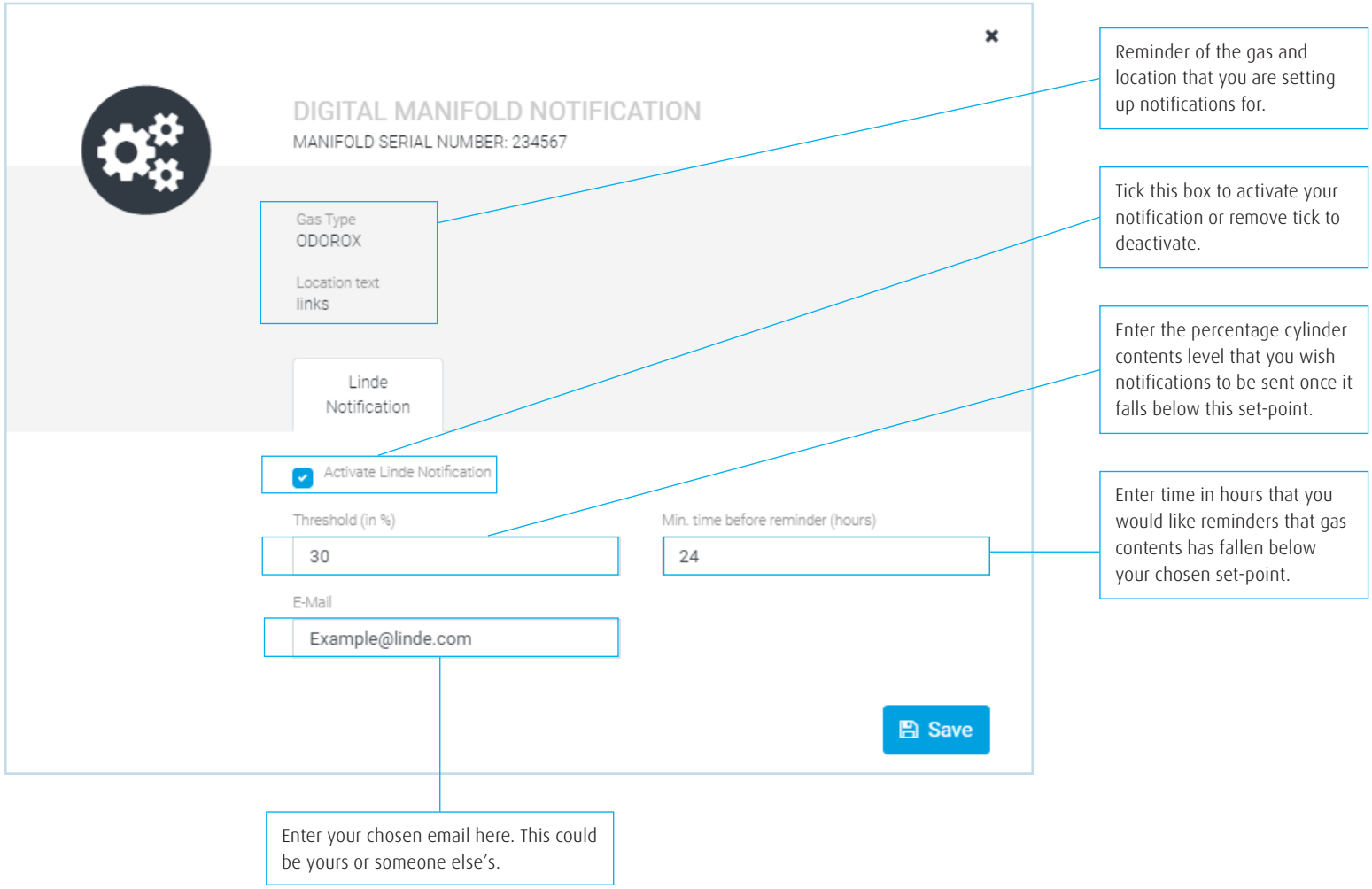
Setting up notifications

This is the screen you will be presented with once you have selected the email icon.



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Smart sensor

Pressure measurement range, relative	0... 360 bar
Overload pressure to DIN EN 60770-1	480 bar
Burst pressure to DIN EN 60770-1	600 bar
Gas Contents Tolerance	+/- 2 %
Communication interface	Bluetooth V5 interface
Pressure connection, thread	1/4 NPTF, dry seal, G1/4" with manometer spigot
Protection class	IP 67
Gases	Inert gases and mixtures Oxygen and Oxidising mixtures Flammable gases and mixtures
Lifetime	5 years
Pressure change notification	> 4 bar pressure change
Markings and approvals	CE marked & ATEX approved

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Repeater

Communication with sensor	Wireless
Communication with cloud	2G cellular
Max number of connected sensors	256
Range from sensors	10 to 15 metres line of sight
Power supply	230 V AC

Are you interested in finding out more?

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