VISY-X

IFSF LON interface converter

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1 Overview

The VISY-X system is intended for use in petrol stations and is compatible with all commercially available fuels and liquefied petroleum gas. It serves to measure and evaluate the fill levels and environmental data in the tanks.

The IFSF LON interface converter is for connecting the VISY-X system to the IFSF LON standard (International Forecourt Standards Forum). The interface converter is a module that is connected to the host interface of the VISY-Command measurement evaluation unit. From there, the interface converter retrieves the current tank data and correspondingly implements the IFSF LON standard.

The interface converter is wired at the factory and installed in the VISY-Command measurement evaluation unit so that no further device-internal installation work is needed.

1.1 Safety instructions

The interface converter and the VISY-Command measurement evaluation unit are not suitable for external installation and are not for use in potentially explosive environments. They are intended for use within the VISY-X system. The system must be used exclusively for this purpose.

The VP-... measuring transducer, the VI-... interface and the IFSF LON interface converter inside the VISY-Command measurement evaluation unit must always be undamaged and clean.

In normal operation, the VISY-Command measurement evaluation unit’s cabinet must be closed.

Observe and follow all product safety notes and operating instructions. The manufacturer accepts no liability for any form of damage resulting from improper use.

All components have been developed, manufactured and tested in accordance with state-of-the-art technology and accepted safety standards. Nevertheless, hazards may arise from their use.

The safety instructions in this manual are marked as follows:

⚠️ If these safety instructions are not observed, it may result in the risk of accident or damage to the VISY-X system.

💡 Useful tips and information in this manual that should be observed appear in italics and are identified by this symbol.
The following safety precautions must be observed in order to reduce the risk of injury, electric shocks, fire or damage to the equipment:

- Do not change or modify the system or add any equipment without the prior consent of the manufacturer.
- Only use original parts. These comply with the technical requirements specified by the manufacturer.
- The installation, operation and maintenance of the sensors and the VISY-Command must solely be carried out by expert personnel.
- The product may be powered only via the permissible auxiliary power supply.

⚠️ For installation, maintenance and servicing of explosion-protected devices, it is vital to follow the rules and regulations in the relevant operating instructions in the appendix.

⚠️ Observe also the local safety and accident prevention regulations, which are not stated in these operating instructions.

⚠️ All installation and maintenance work, with the exception of functional testing, must be carried out with the power disconnected.
2 IFSF LON interface converter

2.1 Preparations

It is assumed that the installer is trained in how to work with IFSF LON. Before the interface converter is connected to the IFSF LON, the VISY-X system must be configured using the VISY-Setup program. The procedure for VISY-X configuration can be found in the technical documentation of the VISY-Setup program and the configuration table supplied with each VISY-Command. 107 must be set as the host code for the IFSF LON interface converter.

For further details, see:
- Technical documentation VISY-Command VI-4, art. no. 207184
- Technical documentation VISY-Setup, art. no. 207158

Before configuration, it must be clarified with the manufacturer of the relevant petrol station controller whether any required tank tables should be saved in the petrol station controller or in the VISY-X system. Tank tables in VISY-X are also programmed in the VISY-Setup program. Ideally, personnel trained in how to work with the petrol station controller should be on site during commissioning. If that is not the case, you must check with the manufacturer of the petrol station controller or the responsible service company which address should be configured on the interface converter so that the IFSF LON is able to recognize the VISY-X system.

2.2 Configuring the subscriber address

The subscriber address (node ID) is configured using the coding switch and must be done prior to commissioning. The value of the address to be configured is determined by the petrol station controller and must be clarified with the manufacturer of the petrol station controller or with the responsible service company. The switch positions for the individual addresses can be found in the following illustration:

![Switch positions - Node IDs]

Figure 1: Switch positions - Node IDs

The subscriber address (node ID) 0 is not allowed. Switch 1 is for reset mode (see reset).
2.3 Connection, display and controls

The interface converter is delivered pre-installed in the VISY-Command housing. Prior to commissioning, only the LON connection has to be established, as shown in the following connection diagram.

![Connection diagram – LON connection](image)

**Node ID**
Configuring the subscriber address (node ID) and reset mode
S1: Reset mode
S2...S8: Subscriber address (node ID)

**Power**
Supply: +5 V, GND
Reset
Reset button
Coding switch S1 = ON: Master reset (after commissioning)
Coding switch S1 = OFF: Normal reset (in operation)

LED service
LED off: flawless operation
LED flashes: Error on the interface converter

LED TX-LON
Illuminates when the interface converter sends a message via the LON bus

LED RX-LON
Illuminates when the interface converter has received a message addressed to it via the LON bus

LED status
LED off: flawless operation
LED blinks once: interface converter’s communication with the VI-... interface card has been disrupted
may occur:
• after switching on (max. 30 seconds)
• during brief disruption of data traffic
LED blinks twice: Response time of VI-... interface card exceeds two seconds, may occur during commissioning or configuration
LED blinks three times: no communication possible with the VI-... interface card for longer than 60 seconds, may occur:
• if the host code (107) in the VI-... interface card is wrong
• if the VI-... interface card or the interface converter is defective
• if the cable connection to the VI-... interface card is faulty
LED blinks four times: Error when writing to the IFSF database
LED illuminates: the impermissible node ID 0 has been set
2.4 Reset

After performing complete configuration using VISY-Setup, configuring the subscriber address (node ID) and connecting the interface converter to the LON bus, a master reset must be performed. In contrast to a normal reset, a master reset causes new settings (e.g. node ID) to be accepted into the neuron chip that controls communication via the LON bus.

To perform a master reset, switch 1 of the coding switch must be moved to ON position. After that, press the reset button once. After master reset has been performed, return switch 1 of the coding switch to the OFF position.
3 Read/write permissions to the database entries

3.1 TLG

<table>
<thead>
<tr>
<th>Data_Id</th>
<th>INOPERAT.</th>
<th>OPERATIVE</th>
<th>MAINT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R</td>
<td>R</td>
<td>R*</td>
</tr>
<tr>
<td>6</td>
<td>R</td>
<td>R</td>
<td>R/W</td>
</tr>
<tr>
<td>7</td>
<td>W</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>50</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>51</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>52</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>53</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>54</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>58</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>59</td>
<td>R/W</td>
<td>R/W</td>
<td>R/W</td>
</tr>
<tr>
<td>60</td>
<td>R/W</td>
<td>R/W</td>
<td>R/W</td>
</tr>
<tr>
<td>61</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>70</td>
<td>W</td>
<td>W</td>
<td>–</td>
</tr>
<tr>
<td>71</td>
<td>–</td>
<td>–</td>
<td>W</td>
</tr>
</tbody>
</table>

Table 1: TLG database

* According to the IFSF standard, this database entry may also have write permission.

3.2 TLG error

<table>
<thead>
<tr>
<th>Data_Id</th>
<th>INOPERAT.</th>
<th>OPERATIVE</th>
<th>MAINT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>3</td>
<td>R</td>
<td>R</td>
<td>R/W</td>
</tr>
<tr>
<td>100</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 2: TLG error code database
3.3 TP

<table>
<thead>
<tr>
<th>Data_Id</th>
<th>INOPERAT.</th>
<th>OPERATIVE</th>
<th>MAINT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>2</td>
<td>R</td>
<td>R</td>
<td>R*</td>
</tr>
<tr>
<td>3</td>
<td>R</td>
<td>R</td>
<td>R*</td>
</tr>
<tr>
<td>4</td>
<td>R</td>
<td>R</td>
<td>R*</td>
</tr>
<tr>
<td>5</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>10</td>
<td>R**</td>
<td>R**</td>
<td>R*/**</td>
</tr>
<tr>
<td>11</td>
<td>R**</td>
<td>R**</td>
<td>R*/**</td>
</tr>
<tr>
<td>32</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>33</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>64</td>
<td>–</td>
<td>R</td>
<td>–</td>
</tr>
<tr>
<td>65</td>
<td>–</td>
<td>R</td>
<td>–</td>
</tr>
<tr>
<td>67</td>
<td>–</td>
<td>R</td>
<td>–</td>
</tr>
<tr>
<td>68</td>
<td>–</td>
<td>R</td>
<td>–</td>
</tr>
<tr>
<td>70</td>
<td>–</td>
<td>R</td>
<td>–</td>
</tr>
<tr>
<td>71</td>
<td>–</td>
<td>R</td>
<td>–</td>
</tr>
<tr>
<td>100</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 3: TP database

* According to the IFSF standard, this database entry may also have write permission.

** This database entry is treated as unimplemented if no volume values are available.

3.4 TP error

<table>
<thead>
<tr>
<th>Data_Id</th>
<th>INOPERAT.</th>
<th>OPERATIVE</th>
<th>MAINT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>3</td>
<td>R</td>
<td>R</td>
<td>R/W</td>
</tr>
<tr>
<td>5</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>100</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 4: TLG error code database
4 Maintenance and repair

4.1 Maintenance

The IFSF LON interface converter is maintenance free.

4.2 Return shipment

Before returning any FAFNIR equipment, a returned goods authorization from FAFNIR customer service is required. Please contact your account manager or customer service for instructions on how to return goods.

⚠️ The return of FAFNIR equipment is possible only a returned goods authorization from FAFNIR customer service.

5 Technical data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer rate:</td>
<td>9600 bits/s</td>
</tr>
<tr>
<td>Address setting:</td>
<td>Manual, via coding switch</td>
</tr>
<tr>
<td>Number of tanks supported:</td>
<td>16</td>
</tr>
<tr>
<td>Connection:</td>
<td>Screw terminals</td>
</tr>
<tr>
<td>Power supply:</td>
<td>5 V, stabilized</td>
</tr>
<tr>
<td>Power consumption:</td>
<td>65 mA</td>
</tr>
<tr>
<td>Perm. ambient temp.:</td>
<td>0 ... +70°C</td>
</tr>
<tr>
<td>Installation:</td>
<td>DIN mounting rail</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>90 mm x 74 mm x 55 mm</td>
</tr>
</tbody>
</table>

6 List of figures

Figure 1: Switch positions - Node IDs .................................................................................................3
Figure 2: Connection diagram – LON connection....................................................................................4
EU-Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de Conformité

FAFNIR GmbH
Bahnenfelder Straße 19
22765 Hamburg / Germany

erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
declares as manufacturer under sole responsibility that the product
déclare sous sa seule responsabilité que le produit

IFSIF LON-Schnittstellenwandler
IFSIF LON Interface Converter
Convertisseur d'interface IFSIF LON

VISY-IFSIF LON

den Vorschriften der europäischen Richtlinien
complies with the regulations of the European directives
est conforme aux réglementations des directives européennes suivantes

| 2011/65/EU | Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten | RoHS |
| 2011/65/EU | Restriction of the use of certain hazardous substances in electrical and electronic equipment | RoHS |
| 2011/65/UE | Limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques | RoHS |
| 2014/30/EU | Elektromagnetische Verträglichkeit | EMV |
| 2014/30/EU | Electromagnetic compatibility | EMC |
| 2014/30/UE | Kompatibilité électromagnétique | CEM |

durch die Anwendung folgender harmonisierter Normen entspricht
by applying the harmonised standards
par l’application des normes

RoHS / RoHS / RoHS
EMV / EMC / CEM

EN 50581:2012
EN 61326-1:2013

Das Produkt ist bestimmt als Elektro- und Elektronikgerät der RoHS.
The product is determined as electrical and electronic equipment of RoHS.
Le produit est déterminé comme des équipements électriques et électroniques de RoHS

Kategorie / Category / Catégorie

Überwachungs- und Kontrollinstrumenten in der Industrie /
Industrial Monitoring and Control Instruments /
Instruments de contrôle et de surveillance industriels

Das Produkt entspricht den EMV-Anforderungen
The product complies with the EMC requirements
Le produit est conforme aux exigences CEM

Störaussendung / Emission / Émission
Störfestigkeit / Immunity / D’immunité

Klasse B / Class B / Classe B
Industrielle elektromagnetische Umgebung /
Industrial electromagnetic environment /
Environnement électromagnétique industriel

Ort, Datum / Place, Date / Lieu, Date


Geschäftsführer / Managing Director / Gérant: René Albrecht