iDC-FT

INTELLIGENT DATA CONCENTRATOR WITH FT INTERFACE

Vossloh-Schwabe's iDC-FT data concentrator forms an intelligent interface between the central control technology and any luminaire controllers in the field. As a major connecting element of the light management system, the iDC-FT enables direct access to every luminaire controller in accordance with EN14901.-1, -2. Furthermore, the product enables decentralised use of key central control functions in order to additionally guarantee the autonomous and self-sufficient operation of the system. Typical applications include street lighting, lighting near buildings featuring direct integration via an OPC client/server architecture and tunnel lighting with the option of a self-monitoring redundant cold-standby architecture.

■ BASIC iDC-FT VERSION WITH A GPRS MODEM AND AN IP CAT5 INTERFACE

The basic version of the iDC-FT is equipped to enable transmission via GPRS and an IP/Cat5 cable network. The currently most widely used version allows the connection of the field level via the widespread mobile radio networks of the various providers via iRHD-FT router. To enable the iDC-FT to be integrated into the mobile network and enable data transfers, an additional SIM card is required that must provide a monthly data transfer volume that suits the intended level of use. The expected data volume depends on the application and network size. Either in parallel or alternatively, the iDC-FT can also be integrated into an IP network using a Cat5 cable. If it is known from the outset that the iDC-FT will primarily be operated using direct IP integration, version 186237 should be selected.

PRELIMINARY

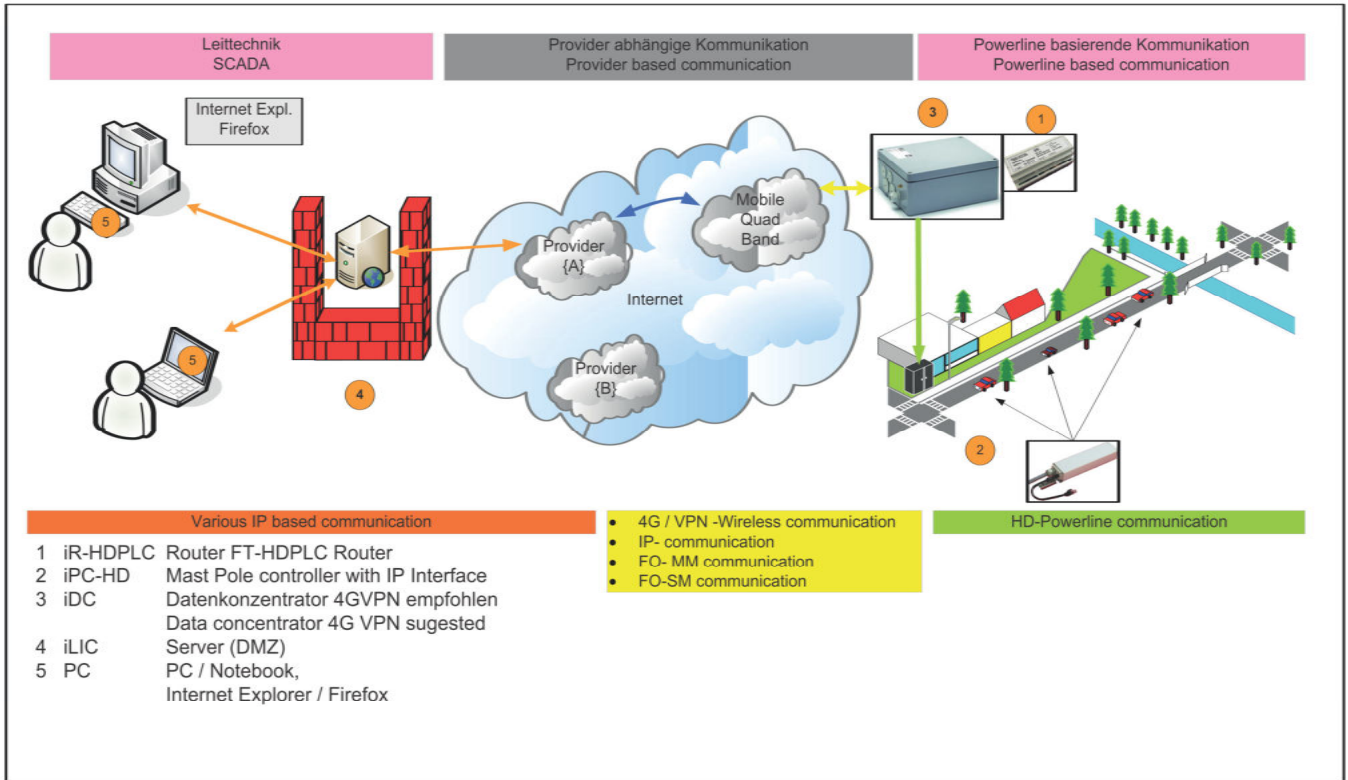VS LIGHTING SOLUTIONS

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iDC-FT Data Concentrator

Technical Details

Intelligent Data Concentrator	t.b.d.
Type	iDC-FT
Physical Details	
Casing	Aluminium, AlSi12 (Fe)
Dimensions (W x H x D)	280 x 230 x 112 mm
Weight	4,400 g
Degree of protection	IP65
Boreholes	2* PG screw connections (25 x 1.5 mm)
	2* PG screw connections (32 x 1.5 mm)
	2* PG screw connections (20 x 1.5 mm)
Operating temperature	−25 °C to + 60 °C
Storage temperature	−25 °C to + 85 °C
Mains voltage	110 – 230 V AC (+ 10 %), 50 Hz (+ 1 % / − 2 %)
Power consumption	average 7 W
Surge protection	externally extended 10 kV 1.2 / 50 better than stipulated by DIN EN 61037
Protection class	I
Aerial connection	FME male for external aerial
Interfaces	
	2 digital inputs 30 V AC/DC Optionally extendable using a cut-off relay for 230 V AC
Outputs	2 relays 230 V AC 10 A
Inputs	2 impulse input counters, S0 in acc. with DIN 43 864
Ethernet Port	10/100BaseT, auto-selecting, auto polarity
RS232 Interface	GSM/GPRS Modem
Power line communication	in acc. with CENELEC EN50065-1, primary using the C band (125–140 kHz), secondary using the B band (95–125 kHz)
Data transfer	twisted pair fit
Data transfer USA	Protocol: ANSI CEA 709.1, Transceiver: ANSI CEA 709.2
Data transfer EU	Protocol EN 14908-1, Transceiver EN14908-2
Software Interface	
	interoperable, use of network variables and configuration parameters in acc. with LonMark®
Data transfer	repeating, with dynamic supervision of the communication path Data
Transfer	master/slave for max. 200 luminaire controllers
Communication	to the main computer; protocol TCP/IP SOAP/XML
Wireless communication	4G VPN, IP CAT5
Internet Service	Transparent TCP, UDP, http, FTP, SMTP, POP3
SIM Card holder	DELIVERED WITHOUT A SIM CARD; please contact your service provider
Country of origin	Made in Germany

The values detailed in this data sheet can change due to technical innovations; such changes will be made without separate notification.
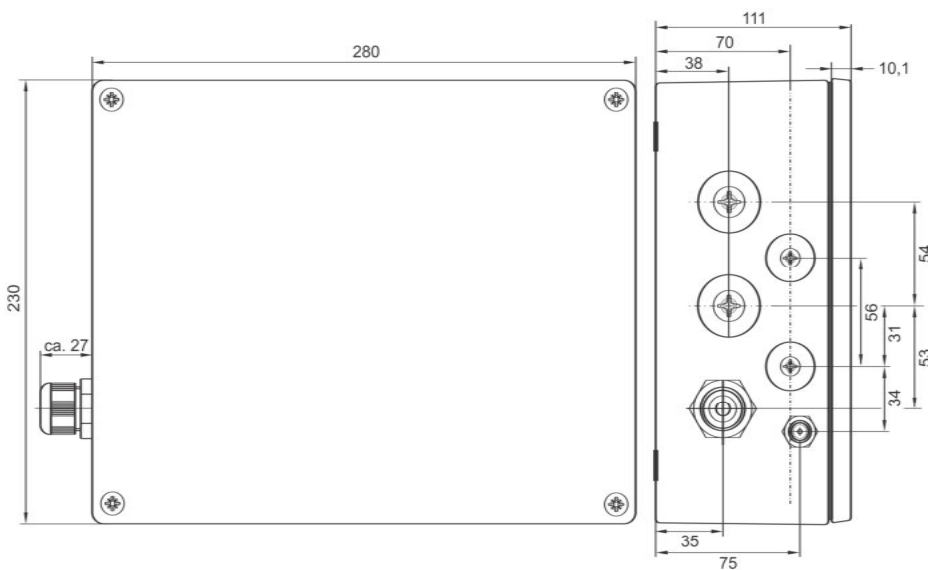Further detailed information can be found at: www.vossloh-schwabe.com.

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PRELIMINARY

iDC-FT Data Concentrator

Overview

	Various IP based communication	
1	iR-HDPLC	Router FT-HDPLC Router
2	iPC-HD	Mast Pole controller with IP Interface
3	iDC	Datenkonzentrator 4GVPN empfohlen
		Data concentrator 4G VPN sugested
4	iLIC	Server (DMZ)
5	PC	PC / Notebook,
		Internet Explorer / Firefox

- 4G / VPN -Wireless communication
- IP- communication
- FO- MM communication
- FO-SM communication

HD-Powerline communication

Dimensions (mm)

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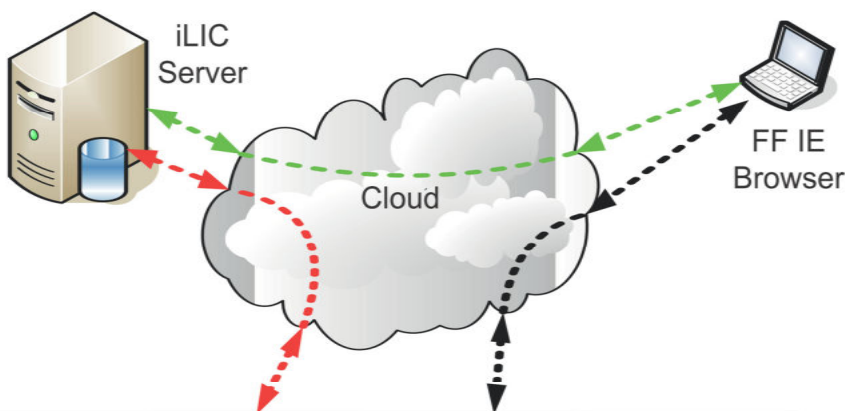
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PRELIMINARY

iDC-FT Data Concentrator

The iDC-FT's Local Application Intelligence

Thanks to its integrated smart server, the iDC-FT is equipped with the key applications that enable it to be integrated into a light management system. Safe and reliable operation of the system as a whole is largely dependent on the architecture of the lighting control system. If the transmission channel between the control technology and the iDC-FT fails, this usually results in the subsequent failure of all downstream components. To avoid this and ensure a certain degree of redundancy, astronomically controlled schedulers can be activated in the iDC-FT that will, after a certain delay, then perform the respective function.

A similar safeguard is provided for recording data generated by luminaire controllers. The smart server of the iDC-FT contains locally integrated data loggers which are capable of recording generated data, even for days at a time, and can then transfer these data to the control technology, usually on a daily basis, but just as easily after a few days in the event of a communication breakdown. Most importantly, though, no data are lost. As the system is designed for universal use, it can be configured to suit highly disparate applications. The applications shown in the chart are integral parts of the iDC-FT's local intelligence and can be remotely configured using the available communication channels. The open nature of the data interface is properly documented in accordance with the XML/SOAP conventions as well as the W3C consortium and WSDL (Web Service Description Language).

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iDC-FT Data Concentrator

Functions

Real-time clock: with a power reserve, synchronisable, incl. astronomical calendar
Time synchronisation: optional server-based (SNTP) time synchronisation. (Provided technical conditions exist.) Email: email client to send predefined information.
Data logger: monitors process data of the luminaire controller
Alarm: monitors process data; triggers defined actions
Timer-based control: planning and activation of repetitive control tasks
IO converter: converts digital input signals into process data and vice versa.
Operating system: updateable
Programmable: yes

Software

Easy parameter configuration and installation is ensured by the software for commissioning luminaire controllers in accordance with LonMark® specifications. Only in connection with the iDC-FT.

The iDC-FT is optionally available in the following versions:

iDC-FT-IP
Ref. No.: on request
Device on request
Difference from the basic version: delivered without a GPRS modem

iDC-FT100 SM
Ref. No.: on request
Device on request
Difference from the basic version: delivered with a media converter for single-mode optical fibres
- Interface LWL interface
- 1x100 base FX, SM cable, SC sockets
- Single-mode fibre (SM) 9/1251Jm 0...32.5 km
- 16 dB/km link budget at 1300 nm
- A=0.4 dB/km, 3 dB reserve,
- D=3.5 ps/(nm x km)

iDC-FT100-MM
Ref. No.: on request
Device on request
Difference from the basic version: delivered with a media converter for multimode optical fibres
- Interface LWL interface 1x100 base 1FX, MM cable, SC sockets
- Multimode fibre (MM) 50/1251Jm 0....5000 m
- 8 dB link budget at 1300 nm
- A=1 dB/km, 3 dB Reserve, B=800 MHz x km
- Multimode fibre (MM) 62.5/1251 Jm 0....4000 m
- 11 dB link budget at 1300 nm A=1 dB/km, 3 dB reserve, B=500 MHz

PRELIMINARY

iDC-FT Data Concentrator

Sales Text

Data concentrator with iR HD-FT Router for managing power-line-capable luminaire controllers based on LonWorks® technology for sub-distribution or substation installation. As the connecting link between the central control point and the luminaire controllers, the iDC-FT enables online communication via open, standardised protocols on both the IP and the field level. Fitted with local applications that are specific to lighting applications, the iDC-FT is also capable of intelligently managing the systems in offline mode. This requires a data logger, a limit-value monitor, schedulers, an email client, a real-time clock as well as a WEB server with a programming interface. Versions with GPRS, IP/Cat5 and an optical fibre interface for single- or multimode technology are also available for integration into different infrastructures.

Text for Invitations to Tender

Wall-mounted data concentrator for managing luminaire controllers in accordance with the OLC LonMark® profile via a LON FT-HD Router. Depending on the specific product, communication to the central control technology can be optionally effected via:

a) 4G VPN Route
b) IP Cat5 cable
c) Single-mode optical fibre
d) Multi-mode optical fibre
e) 3G VPN-Router
f) 4G VPN-Router

Bidirectional LON FT communication in acc. with the protocol in line with ANSI CEA 709.1, Transmission in line with ANSI CEA 709.2. Data transfer: Europe EN 14908-1, 2

Text for Invitation to Tender (cont.)

The iDC-FT is suitable for 110 – 230 V AC (+/− 10%) mains voltage with a frequency of 50 Hz (+1%/-2%). Standby power consumption: 7 W, during operation: 12 W, depending on type of operation. By virtue of the application, the iDC-FT is fitted with additional hierarchical protection to ensure a special level of surge protection of up to 10 kV 1.2/50, which serves to prevent electronics failure. Operating temperature: −25 °C to + 60 °C, storage temperature −25 °C to + 85 °C. To ensure optimum EMC shielding, the iDC-FT is delivered in a RAL 7001-varnished aluminium casing, with dimensions (W/H/D) of 280/230/112 mm and a weight of 4,400 g. The real-time clock with a power reserve and astronomical calendar can be synchronised via an SNTP server. A data logger, an alarm monitor as well as alarm notification are available in the form of special applications for the purpose of recording data using LonWorks® technology. Parameters are configured via the internal web interface or the XML/SOAP interface. Logged data and alarm messages can be sent by email.

Operating options:
- switched lighting cable
- unswitched lighting cable
- 1- to 3-phase voltage supply and signal coupling

The following interfaces are available:
RS-232 interface (9-pole) for commissioning and maintenance; two optical, decoupled digital inputs; two relay outputs (10 A); two SO impulse inputs, compliant with DIN 43 864. Ethernet port 10Base-T via an RJ45 jack. Protection class I, degree of protection: IP65, secure connection of the supply voltage via PG screws. Connection lead not included in the scope of delivery. Two further openings with M25 and M32 threads (plugged upon delivery) are optionally available on each iDC-FT for feeding through additional cables. SIM card for GPRS is not included in the scope of delivery. Voltage supply is single-phase.

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