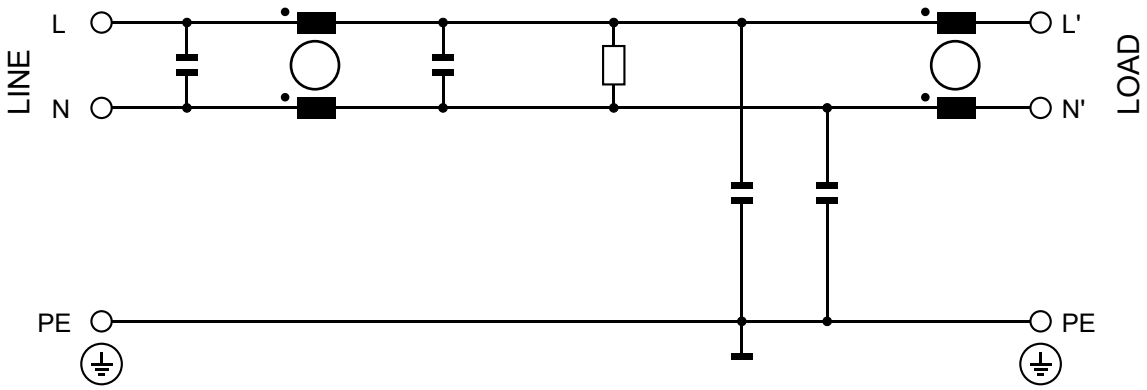
EMI filter for power electronics and converters



Tolerances L: +50 % -30 % C: +20 % -20 % R: +10 % -10 %

Designation:	FS43956-14-07-LL
Part Number:	823441
Customer's Designation:	AX-FIC1014-SE-LL

Document Number:	1077119	F
Created:	LUTSNO	2023-11-03
Checked:	LUTFVA	2023-11-07
Released:	LUTLUR	2023-11-07

Revision History

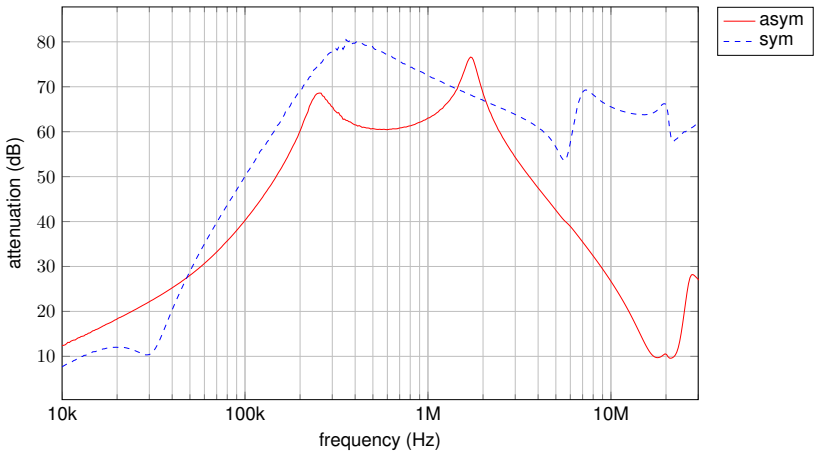
F	2023-11-07	LUTLUR	Approval Logo update	(Change Number: 20009922)
E	2023-10-20	LUTLUR	Drive Standards added	(Change Number: 20009831)
D	2023-06-23	LUTLUR	Update DC Res, Label, Weight	(Change Number: 20009638)
C	2023-02-02	LUTLUR	Label update	(Change Number: 20009375)
B	2023-01-12	LUTLUR	Add product compliance label	(Change Number: 20009306)
A	2023-01-11	LUTLUR	initial version	

Electrical

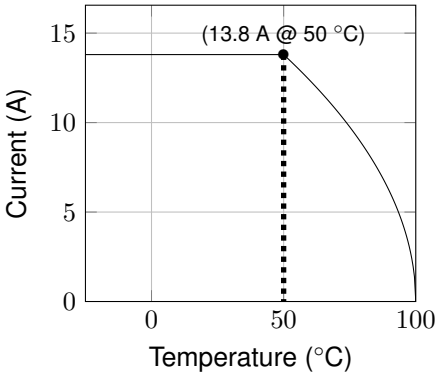
Rated Current (I_{th}):	13.8 A	@ 50 °C amb. Temperature
Rated Current (I_{th1}):	15.1 A	@ 40 °C amb. Temperature
Nominal Operating Voltage:	230 +/- 10% VAC	
Rated Operating Voltage:	250 VAC	
Max. Operating Frequency:	60 Hz	
Leakage Current (IEC 60939-3):	2.59 mA	@ Rated Voltage and 50 Hz
Production Line Test Voltage:	2.25 kVDC*	for 2 s (L to PE)
	1.1 kVDC*	for 2 s (L to N)
	(* Repetition with max. 80 % of the specified values)	
Overvoltage Category (IEC 60664-1):	III	
Max. DC Resistance @ 25 °C:	16.5 mOhm	L - L'

Typical Insertion Loss

Per CISPR 17 (50 Ω / 50 Ω)



Current Derating



$$I = I_N \cdot \sqrt{\frac{\Theta_{max} - \Theta_{act}}{\Theta_{max} - \Theta_N}}$$

for $\Theta_{act} > \Theta_N$ and $\Theta_{act} < \Theta_{max}$

I_N	rated current at Θ_N
Θ_{act}	actual ambient temperature
Θ_N	temperature at which the rated current is defined
Θ_{max}	rated maximum temperature of the component

Environmental & Reliability

Operating Ambient Temp. Range:	-25 °C to 100 °C
Cooling:	AN
Pollution Degree (IEC 60664-1):	3
Climatic Class (IEC 60068-1):	25/100/21

Standards, Certifications and Compliances

Design Standard	Certification	
UL 60939-3		
IEC 60939-3		
UL 61800-5-1		
IEC 61800-5-1		
CSA C22.2 NO. 274	E343171	250V
UL 61800-5-1	E343171	250V

Product Compliances
Low voltage directive 2014/35/EU
The Electrical Equipment (Safety) Regulations S.I. 2016/1101

Material Compliances
ROHS 2011/65/EU, 2015/863/EU
REACH No. 1907/2006

Mechanical

Line:	see comment		
Load:	(-07) Lace Ferrule	Type:	See Mechanical Drawing
PE:	Thread M5	Torque (Nm):	2.0-2.2
Net Weight:	0.559 kg		
IP Class (IEC 60529-1):	20		

Comment to Line Terminal

Type: DG636-6.35-02P-14-00AH
Torque (Nm): 0.5
Flex Wire (AWG): 26 - 10
Flex Wire (mm2): 1.5 - 4

Annexes

Annex 1

Description:	Mechanical Drawing
Document Number:	1091330

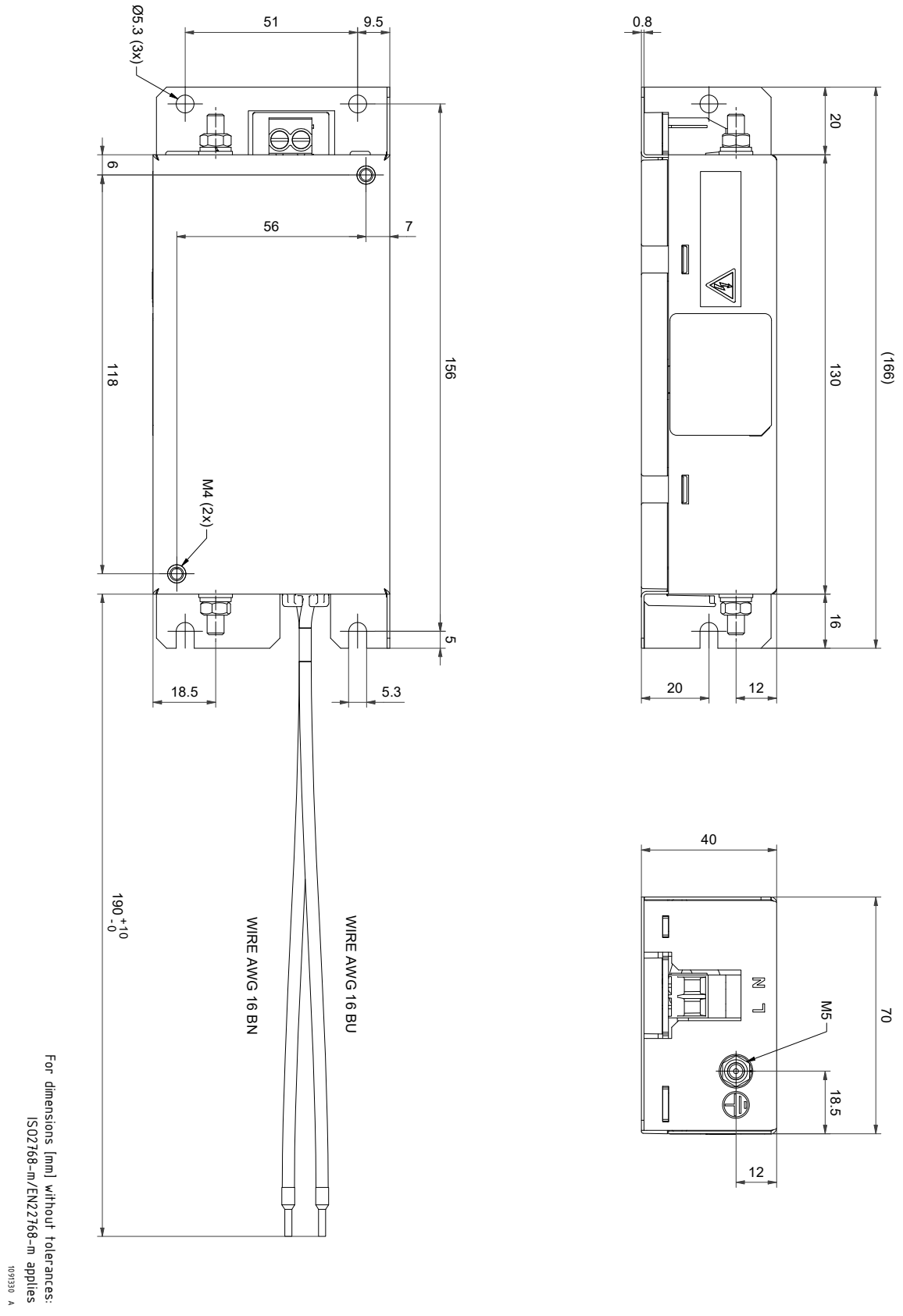
Annex 2

Description:	Product Label
Document Number:	1090762

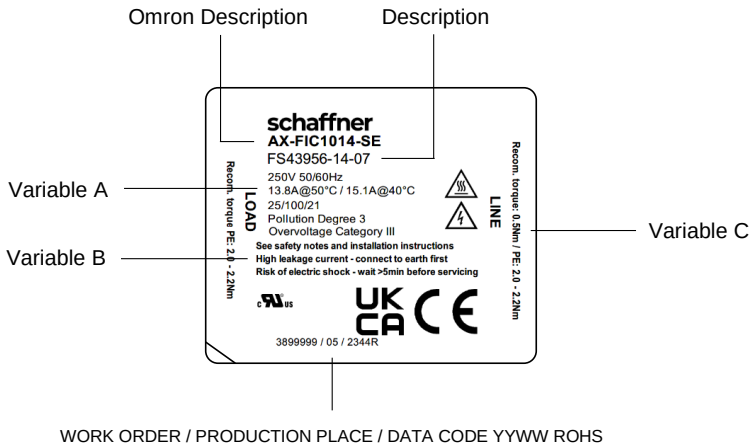
Annex 3

Description:	Packaging Label
Document Number:	1079067

Annex 1 - Mechanical Drawing



Annex 2 - Product Label



Mat.	Description	Omron Description	Variable A	Variable B	Variable C
823440	FS43956-14-07	AX-FIC1014-SE	13.8A@50°C / 15.1A@40°C	x	0.5Nm / PE: 2.0 - 2.2Nm
823442	FS43956-20-07	AX-FIC1021-SE	20.2A@50°C / 22.1A@40°C	x	0.5Nm / PE: 2.0 - 2.2Nm
823444	FS43956-26-07	AX-FIC1026-SE	26A@50°C / 28.5A@40°C	x	1.2Nm / PE: 2.0 - 2.2Nm
823446	FS43956-45-07	AX-FIC1045-SE	45.4A@50°C / 49.7A@40°C	x	1.5 - 1.8Nm / PE: 2.0 - 2.2Nm
823441	FS43956-14-07-LL	AX-FIC1014-SE-LL	13.8A@50°C / 15.1A@40°C		0.5Nm / PE: 2.0 - 2.2Nm
823443	FS43956-20-07-LL	AX-FIC1021-SE-LL	20.2A@50°C / 22.1A@40°C		0.5Nm / PE: 2.0 - 2.2Nm
823445	FS43956-26-07-LL	AX-FIC1026-SE-LL	26A@50°C / 28.5A@40°C		1.2Nm / PE: 2.0 - 2.2Nm
823447	FS43956-45-07-LL	AX-FIC1045-SE-LL	45.4A@50°C / 49.7A@40°C		1.5 - 1.8Nm / PE: 2.0 - 2.2Nm

Label printout directly from ZO11N based on the settings from Classification in SAP!
Packing labels are also printed directly from ZO11N!

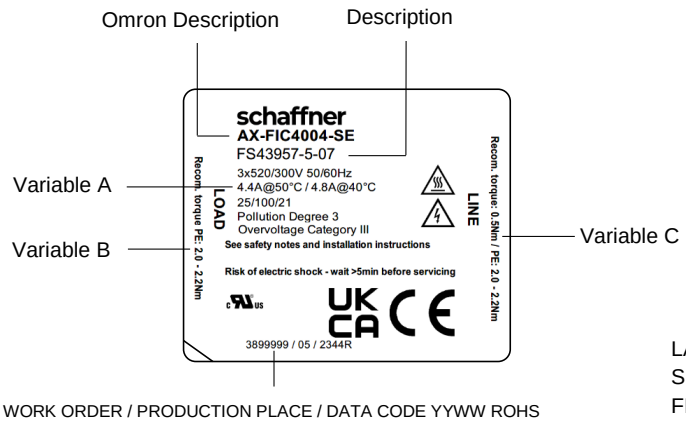
Note: Production place
05 for Thailand
88 for China

LABEL: 202154
SIZE: 36x30mm
FILE: L-202154-60

			no scale	A4	created	31.10.2023	LUTMST
					checked	02.11.2023	LUTCAC
B	20009922,Update approval logo FS43956/7_FS44204/5	02.11.2023			released	02.11.2023	LUTMST
A	20009831,Add Drive Standard Approvals	05.10.2023	scale	format	status	date	user
A1	20009831,Add Drive Standard Approvals	03.10.2023	LABEL PRODUCT				
A0	20009831,Add Drive Standard Approvals	29.09.2023	doc. description				
rev.	change no. / change description	date	several	FS43956/FS43957-SERIES			
	schaffner		mat. number	project			

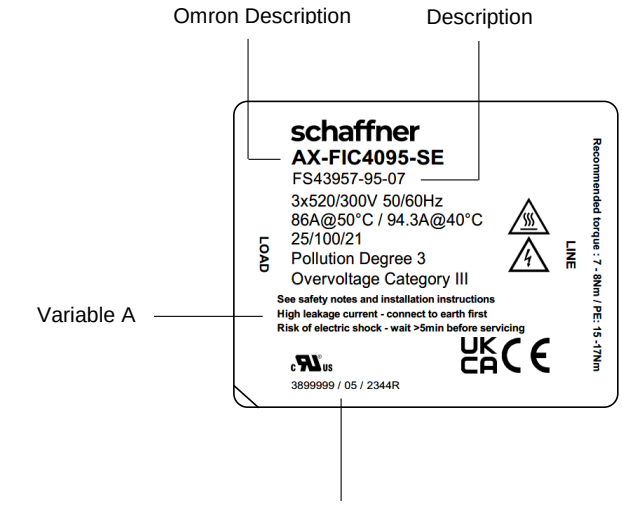
LAB	1090762	B	1 / 2
doc. type	doc. number	doc. rev.	page

Template: 02-31777 A schaffner.com



LABEL: 202154
SIZE: 36x30mm
FILE: L-202154-60

Mat.	Description	Omron Description	Variable A	Variable B	Variable C
823448	FS43957-5-07	AX-FIC4004-SE	4.4A@50°C / 4.8A@40°C	PE: 2.0 - 2.2Nm	0.5Nm / PE: 2.0 - 2.2Nm
823450	FS43957-11-07	AX-FIC4011-SE	10.3A@50°C / 11.3A@40°C	PE: 2.0 - 2.2Nm	0.5Nm / PE: 2.0 - 2.2Nm
823452	FS43957-17-07	AX-FIC4017-SE	15.3A@50°C / 16.8A@40°C	PE: 2.0 - 2.2Nm	1.2Nm / PE: 2.0 - 2.2Nm
823454	FS43957-44-07	AX-FIC4044-SE	40A@50°C / 43.8A@40°C	PE: 2.0 - 2.2Nm	1.5 - 1.8Nm / PE: 2.0 - 2.2Nm
823456	FS43957-61-07	AX-FIC4061-SE	55.3A@50°C / 60.6A@40°C		2.0 - 2.3Nm / PE: 3.5 - 4.0Nm
823449	FS43957-5-07-LL	AX-FIC4004-SE-LL	4.4A@50°C / 4.8A@40°C	PE: 2.0 - 2.2Nm	0.5Nm / PE: 2.0 - 2.2Nm
823451	FS43957-11-07-LL	AX-FIC4011-SE-LL	10.3A@50°C / 11.3A@40°C	PE: 2.0 - 2.2Nm	0.5Nm / PE: 2.0 - 2.2Nm
823453	FS43957-17-07-LL	AX-FIC4017-SE-LL	15.3A@50°C / 16.8A@40°C	PE: 2.0 - 2.2Nm	1.2Nm / PE: 2.0 - 2.2Nm
823455	FS43957-44-07-LL	AX-FIC4044-SE-LL	40A@50°C / 43.8A@40°C	PE: 2.0 - 2.2Nm	1.5 - 1.8Nm / PE: 2.0 - 2.2Nm
823457	FS43957-61-07-LL	AX-FIC4061-SE-LL	55.3A@50°C / 60.6A@40°C		2.0 - 2.3Nm / PE: 3.5 - 4.0Nm

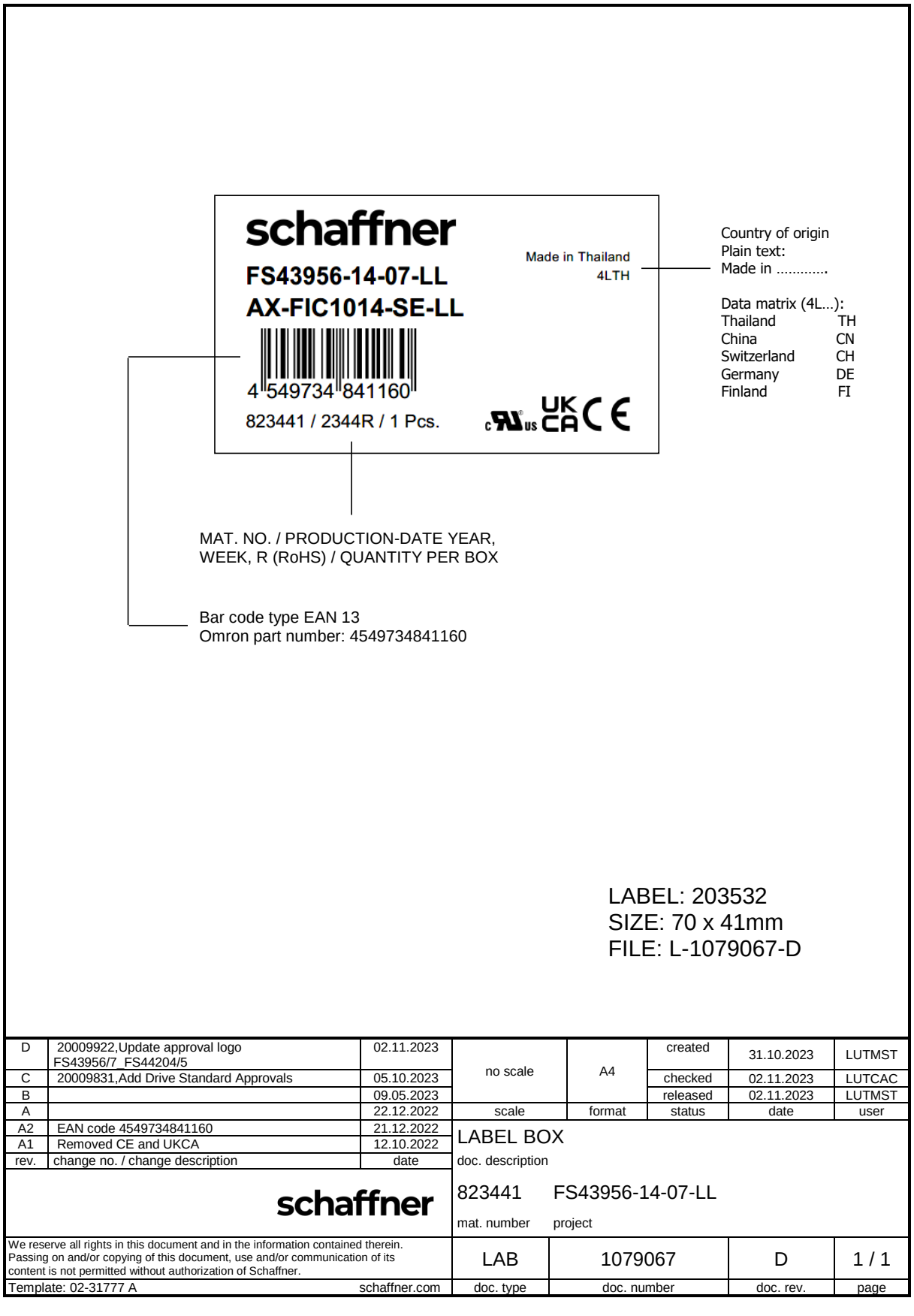


LABEL: 202466
SIZE: 60x45mm
FILE: L-202466-39

Material	Description	Omron Description	Variable A
823458	FS43957-95-07	AX-FIC4095-SE	X
823459	FS43957-95-07-LL	AX-FIC4095-SE-LL	

LAB	1090762	B	2 / 2

Annex 3 - Packaging Label



rev.	change no. / change description	date
D	20009922,Update approval logo FS43956/7_FS44204/5	02.11.2023
C	20009831,Add Drive Standard Approvals	05.10.2023
B		09.05.2023
A		22.12.2022
A2	EAN code 4549734841160	21.12.2022
A1	Removed CE and UKCA	12.10.2022

schaffner

Template: 02-31777 A schaffner.com

scale	format	status	date	user
no scale	A4	created	31.10.2023	LUTMST
		checked	02.11.2023	LUTCAC
		released	02.11.2023	LUTMST

LABEL BOX
doc. description

823441 FS43956-14-07-LL
mat. number project

doc. type	doc. number	doc. rev.	page
LAB	1079067	D	1 / 1

Disclaimer

1. Product suitability for a given application must ultimately be determined by the user (the party that is putting the product into operation) on a case by case basis. Product functionality and suitability must be determined with proper verification within the final application. Neither Schaffner nor its subsidiaries will assume liability for any consequential downtimes or damages resulting from use of products outside their specifications or due to incomplete verification in application.

2. Do not attempt to install, operate, maintain or inspect any product until you have read and understood the related safety notes and installation guidelines delivered with the product. If not available, general safety and installation notes are available on Schaffner Website: www.schaffner.com.
Non-qualified persons are not allowed to install or maintain Schaffner products!

3. The user is responsible to observe compliance with all local installation and electrical regulations.

4. All products must have their safety earth connected using properly dimensioned connectors. It is recommended to avoid chaining safety earth of multiple equipment together.

5. Warnings, cautions and notes as displayed on the product label must be observed at all times.

6. Overcurrent or overvoltage applied to products or resulting from an improper setup (i.e. resonances) may cause substantial damages, represent a fire hazards and lead to body injury or death.

7. Unless specifically indicated in datasheet, products do not contain any protection components. Suitable overcurrent and overvoltage protection circuits must be placed upstream of the product to avoid any consequential damage in case of any system malfunction.

8. Products with capacitive elements can have significant amount of stored energy. If misused or mishandled it could lead to body harm, damage and eventually fire hazard.

9. Products have limited lifetime and are subject to ageing effects heavily depending on operating conditions and environment. Schaffner recommends to regularly check any inbuilt capacitance to ensure constant performance and considering replacement after 12 years from initial commissioning unless otherwise indicated. Even when properly operated as in specifications, it is not possible to rule out single malfunctioning or failures of components happening before the usual lifetime.
User is responsible to evaluate the environment in the application and eventually perform preventive maintenance before the above recommendation. User shall also evaluate risk of possible failures and implement proper containment actions to avoid damage or injury.

10. Schaffner reserves the right to change raw materials used in this product during its life cycle on the companys own discretion, mainly for the purpose of managing and maintaining a capable international supplier base and for ensuring prompt product availability at all times. All changes having no impact on form, fit, function and technical specifications according to company internal evaluation will be carried out without notification.
Stricter change management process can be implemented on request.